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ABSTRACT

This proceedings of the Brick and Click Libraries Symposium contains the following papers: (1) "Electronic Journals: Vendor Solutions to Access Issues" (Nona Barton); (2) "Tips on Funding" (Janice Borey); (3) "Why Are So Many Web Pages Still So Hard To Use?" (Jerry R. Brown); (4) "The Secrets of Full-Text Databases: The Overlap between a Same Vendor's Subject Database and General Database, and the Differences between Different Vendors in Embargo" (Xiaotian Chen); (5) "Copyright Compliance on Campus" (Judy Druse, Susan Jarchow, and Brenda White); (6) "From Sales Representative to Librarian: Using Sales Skills To Improve Library Liaison Work" (Connie Ghinazzi); (7) "Evolving Access Issues: Electronic Reserves" (Jennifer Green); (8) "ARL's Collection Analysis Project: Continuing Feasibility for a Medium-Sized Academic Library" (Jan Guise and David Feinmark); (9) "Usage Statistics: Interesting Changes and Challenges" (Melissa Holmberg); (10) "In Search of the Missing Record: Investigating How Keyword Searching is Often Not What It Seems" (Michelle Holschuh Simmons and Mary Hammond Iber); (11) "Problem-Solving Discussion Session" (Carolyn Johnson); (12) "Building Next Generation Library Web Sites Using Open Source Content Management Software" (Paul Lewis); (13) "It's All in How You Play the Game: Applying Educational Games to Library Instruction" (Lori Mardis, Connie Ury, Vicki Wainscott, Frank Baudino); (14) "QuestionPoint, Collaborative Reference Service" (Judy Pask and Deb Ehrstein); (15) "Designing Interactive Online Tutorials" (Jennifer Quinlan and John Small); (16) "Exploring the Challenges of Virtual Reference in an Academic Library" (Elizabeth Turtle and Marcia Stockham); (17) "Designing & Developing Interactive Instructional Concepts" (Roger Von Holzen and Darla Runyon); (18) "Providing Electronic Document Delivery Services: Juggling User Needs, Delivery Options, and Quality Service" (Cherie L. Weible); (19) "'Engineering' Academic Library Services for Continuing Quality Improvement" (Daryl Youngman); and (20) "Launching Chat Reference Service at Central Missouri State University: A Missouri Experience" (Fu Zhuo and John Small). Most papers contain references. (MES)

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Brick and Click Libraries: Changes and Challenges

Proceedings of a Regional Academic Library Symposium

Friday, October 18, 2002

Edited by

Connie Jo Ury
Northwest Missouri State University

Vicki Wainscott
Northwest Missouri State University

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Electronic Journals: Vendor Solutions to Access Issues

Nona Barton

Nona Barton is the Serials and Electronic Resources Librarian at Fort Hays State University, Hays, Kansas. She received her M.L.S. from Emporia State University.

Abstract

Library resources have gone through significant changes. For example, it has only been in recent years that most library patrons gained direct access to electronic resources. Librarians acted as intermediaries for patrons, gaining access to the resources and passing the information along to the patrons. Now library patrons have direct access to a wealth of electronic information, not only while physically in the library, but also from their homes.

Patron access to electronic resources has improved, but it could be better. Often, patrons who already know what electronic journal they need may have difficulty locating the item in aggregated databases. They may look in several databases before finding the correct item. Patrons might also get so discouraged that they give up before locating the item they were initially searching for. Some patrons may seek a librarian's advice, but many do not. This leaves questions unanswered and frustrations intact.

Forsyth Library is currently investigating the services offered by vendors to help access electronic journals in aggregated databases in order to determine if their products will help us improve service to our patrons, and if these services are right for this library. This presentation offers an overview of three vendors and what they have to offer libraries. Viewed as competitors, these vendors offer somewhat different products. The vendors to be discussed are Serials Solutions, TDNet, and Journal Web Cite, LLC.

Tips on Funding

Janice Borey

Janice Borey has served in the public education system for 22 years. She has a Masters Degree in Library Science from the University of Missouri-Columbia. Currently she is employed by the Worth County-III School District where she serves as librarian.

Janice has written and procured funding for her school district as well as for the University of Missouri's Hundley Whaley Research Center, Worth County Public Library, and various other groups. Her grant writing has resulted in the successful awarding of over $600,000 in funding.

Abstract

The changes and challenges in academic libraries have increased tremendously in just this year. Budget cuts, downsizing and organizational restructuring have caused libraries to delay or even deny their patrons new and stimulating programs. Funding sources to provide for those new programs are going to have to be found and courted. This workshop will provide some tips and ideas for locating and convincing potential funders to share their wealth. The three Rs to grant writing will be covered--reading, writing and 'rithmetic. All grant writing involves reading, whether it is reading the funder's guidelines or reading fact-finding memos. It also involves writing—from concise effective writing of one-page letters of inquiry to media announcements. One final aspect is the 'rithmetic or the budget that needs to be a well-crafted, detailed, and realistic portion of the grant that supports the whole funding proposal. Changes and challenges are occurring at a rapid pace in libraries everywhere, but with some creative reading, writing and 'rithmetic, partnerships for creative funding can be found.

Why Are So Many Web Pages Still So Hard To Use?

Jerry R. Brown

Jerry R. Brown, Instructor of Library Services, Central Missouri State University, Warrensburg. Following an initial foray into higher education after high school, she worked for police departments, as a legal assistant, and a private process server before finally finishing her undergraduate degree at CMSU in 1990, receiving the M.A.L.S. from the University of Missouri-Columbia in 1995, and the Education Specialist in Information Technology from CMSU in May, 2002.

Abstract

Many library/educational Web pages are excellent, many are passable, but far too many function poorly. Too many Web authors have been seduced by the "bells and whistles" approach to Web design, resulting in Web pages that are hard to use, slow to load, or are inaccessible to some members of the user population. Currently, no generally accepted standards for Web page content exist. Missouri Bibliographic Information User System (MOBIUS) academic library Web pages were surveyed to discern Web page design, accessibility, and content commonalities. This paper reviews the results of the survey, discusses the findings, and provides suggestions for standard content and design elements. Accessibility issues and Web page checkers, such as BOBBY, are discussed in order to raise awareness of this important service question. The survey revealed that the Web pages in question have some very good points: all provide access to some electronic resources online; all opened in both Netscape Communicator and Internet Explorer; and most (9 of 11) provided the last revision date either on the page or in the source code. Unfortunately, these positive points are offset by several negatives: none of the Web pages passed the BOBBY Web accessibility test; only one uses the <alt.txt> field in its coding; and only six sites provide the identity of the person or persons responsible for the Web pages. This paper provides a starting point for further research and development of library Web pages.

Introduction

An acknowledged goal of education in the United States today is the preparation of students to be computer literate, critical thinkers so that they may function within the increasingly pervasive electronic information environment of the twenty-first century. Librarians can no longer concentrate only on print resources, but must provide access to, and instruction in the use of, electronic resources.

A library's presence on the World Wide Web can greatly benefit students, giving them access to learning resources anywhere they can log on to the Web, at any time. Little has been published on what content should be included in a library Web page. A group of evaluation criteria will be developed against which to compare existing academic library Web pages in order to determine the status of MOBIUS libraries in relation to this important pedagogical goal.

The following research questions will be explored in this paper:

1. Do standards exist for content, design, and accessibility of library Web pages?

2. Do Missouri academic library Web pages meet the accessibility standards of the W3C as represented by BOBBY?
3. What are some basic criteria for design, content, and accessibility for library Web pages?

The Missouri Bibliographic Information User System (MOBIUS) is a consortium of academic libraries within the state of Missouri. MOBIUS institutions include a wide variety of educational institutions: community colleges, private colleges, regional universities and colleges, and research universities. The Common Library Platform project (CLP) created a virtual collection of the holdings of the member libraries within a single user interface that allows faculty and students to search for and borrow books across the state.

This study was performed during the fall of 2002. The list of MOBIUS members was used as the basis of the sample group. One library was chosen from each cluster to form the survey group. A survey instrument was developed using suggestions from the literature review and the researcher's knowledge of the topic in order to review the individual Web pages and record data reflecting how each Web site treated the questions of content, design, and accessibility.

This study begins to gather data to answer the research questions listed above. Web-based resources and instruction is a growing field. Students need the support of their school libraries more every day. Standards are needed to guide the development of access to online resources in the United States. While strict, prescriptive expectations are not appropriate for public education and would be unenforceable anyway, development of criteria for basic content, design, and accessibility levels will provide a starting point from which each educational institution can begin to build its online presence.

Literature Review

While there are many books and articles dealing with Web page design, there are surprisingly few examples of guidelines for library Web page content. Having a clearly defined purpose for the Web pages is of prime importance before any actual coding or design takes place (Ekhaml, 1998; Clyde, The School Library Web Site, 1999). There are probably as many reasons library Web pages are designed as there are libraries. This diversity of purpose makes development of a single set of criteria for judging Web pages difficult, although there are some fundamentals of Web design that should be obvious and easy to agree on (Clyde, 2000).

Michael Brooks, the acquisitions technician at the St. Joseph's University Library, makes several substantive suggestions for design criteria that will add to the usability of any Web page. Among these is the need to keep in mind that most Internet home users are still using 56K modems to connect to the Web. Therefore, it is in our interests as designers who want our Web sites to be useful and used, to keep our pages simple and accessible. Images should be compact and quick loading. Browsers cache images, so if an image has been used for a particular purpose on one page, use it for the same purpose on all the pages. This will save download time and enhance the user's confidence in the reliability of the Web site. When tempted by the wonders of flashy Web page design, remember Brooks' suggestion, "The average person is more interested in simplicity and functionality than in bells and whistles" (2001).

Producing quick loading, easy-to-use Web pages is the goal of the Chadron State College Webmaster, James Soester. He uses a common page design as a unifying theme within the Chadron State Web site. Employing the same font, layout, and background color reinforces the identity of the Web site. Soester also believes that keeping graphics to a minimum improves usability for the majority of his clients and helps keep download times to a minimum (Kelly).

The American Library Association (ALA) lists four Web site evaluation criteria. The suggestions are of use to Web designers in setting minimum content standards. The ALA criteria are:

- the source of the page should be easily identified and contact information available
- the site should be easy to access and load quickly, with accurate, up-to-date information
- the content should be appealing to children and encourage thinking
- the page should use the Web to present information in a unique manner (2001).

The Center for Instructional Technology at the University of North Carolina at Chapel Hill (2001) provides a checklist of items to consider when evaluating educational Web pages. The evaluation criteria, updated in May 2001, are focused on design and judging the reliability of the site. Even a Web page evaluation form designed by a media specialist and published on his school Web site is more concerned with the technical aspects of Web design than with establishing a preferred level of content in the pages.

Kathleen Rutkowski (1997) lists six criteria as an "Evaluation Methodology." Unfortunately, the criteria again focus on technical and design considerations, offering no concrete guidance as to what information or resources should be provided on a library Web site.

A recent article reminds the reader that a Web page is always an ongoing project requiring regular attention and maintenance. Among the ten discrete items suggested to be part of the Web site are:

- information about hours and services
- e-mail contacts
- links to subscription databases
- pathfinders focused on particular assignments
- links to the public library home page (Hill & Fisher).

Some books and journal articles are finally addressing the content question, offering some pithy suggestions to elevate the quality of educational Web sites:

- answer the "why are we doing this?" question with a vision statement which will keep the Web site focused on the library's goals
- have original content on the page
- links to e-mail contacts and the home page should be on every page along with the last revision date (Logan & Beuselinck).

Accessibility issues must be addressed in any discussion of Web page content and design. The Americans with Disabilities Act (ADA) has been in effect for years, but there are still too few examples of accessible Web pages on the Internet. The ADA mandates not only physical access to buildings and collections, but also intellectual access. Advances in software and hardware have put libraries in an excellent position to serve this population in ways that would have been impossible even a few years ago.

W3C has produced 14 guidelines for accessible Web pages. The Center for Applied Special Technology (CAST) created an evaluation tool that checks Web pages for compliance with the W3C guidelines. BOBBY quickly reviews URLs and reports whether the page passed the evaluation, or explaining how it failed. It is a quick, easy way to check that our pages can serve all members of our community (Blake).

A set of criteria from a librarian at New Mexico State University was posted to help that university's students in the independent evaluation of Web pages they encounter. This set of five basic points, accuracy, authority, objectivity, currency, and coverage, provides a short, clear set of questions to ask about any Web page under consideration (Beck).

Other articles suggest additional points to consider when evaluating a Web site, including:

- the purpose behind the creation of the page
- the format and layout of the pages
- the ease of navigation through the Web site
- the age of the site
- the ability to determine where on the World Wide Web the page is housed by deconstructing the URL (Jones; Vandergrift; Waselko).

Many of the articles on general Web site evaluation are primarily concerned with the concepts of Web design. These items also appear on pages dealing with accessibility issues, which, while not precisely content questions, do affect the ability of students to use and benefit from school library Web pages. While being trapped by a page is aggravating to everyone, it can result in some users being effectively barred from using the page at all. Flashing/blinking icons or banners present actual physical dangers to some users. Many Web sites are neglected or abandoned altogether and left to languish in the backwaters of the Net indefinitely (Balas; Clyde, Ten Things I Hate).

Although it should be obvious, the Web page designer must remember to ask the following questions:

- Do the links work?
- Do pages load quickly?
- Is there an obvious exit from the page?
- When was the site last updated?

Accessibility questions, the Americans with Disabilities Act notwithstanding, are often ignored or overlooked. The World Wide Web Consortium (http://www.w3.org) Web site has information on accessibility issues, including a checklist for evaluating the accessibility of existing Web pages.

The Arlington School District (Accessibility, 2000) policies mention accessibility issues directly, mandating that their page designers ensure that:

- pages work with the images turned off

- each alternate text (<alt.txt>) tag provides a description of the graphic
- pages work with both Netscape Navigator/Communicator and Microsoft Internet Explorer and on both Macintosh and personal computers
- pages pass the Bobby accessibility checker.

Web page designers should keep some basic accessibility design principles in mind:

- use solid-color backgrounds for pages
- use a font color which will contrast strongly with the background color
- be consistent in page layout
- always provide <alt.txt> tags for graphics and sound files (Mates 14).

The effort to make Web sites accessible is not only a matter of fairness. Several successful lawsuits have been brought against governmental agencies because inaccessible Web pages deprived the litigants of equal access to critically needed information (Paciello 25). It is inevitable that educational institutions will become party to suits filed on behalf of users likewise deprived of equal access to resources provided on their school's Web pages.

There is a substantial body of work discussing Web page design, but very little concerning the actual contents of the pages. While it is generally agreed that the very diversity of public education in the United States precludes the adoption of extensive standard criteria for such content, some general recommendations are possible and overdue.

At the same time, it seems of little use to produce content that is not available to all users. Curriculum is in place to teach and celebrate the diversity of the culture and population of the United States. Accessibility issues must be addressed at the same time if there is to be any real hope of building a truly inclusive society.

Description of the Study

MOBIUS maintains a list of its member institutions on its Web site at http://mobius.missouri.edu/screens/libinfo.html. This list is the source of the Web pages evaluated in this study. After considering how the study could be structured, the researcher decided to remove Central Missouri State University (the site of the study) and Northwest Missouri State University (the site of the symposium reflected in these Proceedings) from the group of possible participants. It was decided to choose one school from each cluster for this survey. The member list was printed from the Web page, each cluster separated and the list cut apart so that each school name was on a separate slip of paper. All were checked to verify that they had library Web pages online. The names of the eligible schools were placed in a container, one cluster at a time. One slip was pulled from the container from each cluster to form the list of survey subjects (see fig. 1). Each Web page was visited and the evaluation form completed by the researcher to develop a basic "snapshot" of each library's online presence.

Cluster	Library
Archway	Jefferson College
Arthur	Lincoln University
Bridges	Lindenwood University
Galahad	Southeast Missouri State University
Lance	Truman State University
Merlin	University of Missouri – Columbia
Quest	Central Methodist College
Swan	Southwest Missouri State University
Towers	Missouri Western State College
Washington University	Washington University
Wilo	William Jewell College

Fig. 1. MOBIUS Members Surveyed

For the present study, descriptive research was conducted to determine how MOBIUS library Web pages relate to the research questions. One library from each cluster was visited and the survey questions answered. The results of this cluster sampling were tallied to determine how the sites comply with the researcher-identified goals for such Web pages.

Nineteen survey questions (see fig. 2) were designed to gauge how each library Web page is presented and how content, design, and accessibility issues are met by it. The first five questions address the content on the page. The remaining 14 questions deal with technical/design or accessibility questions. Most of the questions can be answered by yes, no, or not applicable (n/a). One question has an additional possible response: yes/no/unable to tell.

School Name: ______________________ Date Evaluated: ________________

CONTENT

1. Is a librarian responsible for the site?	Yes	No	Unable to tell
2. Are electronic resources available?	Yes	No	
3. Is access available from off-campus?	Yes	No	

4. Are Ready References available? Yes No

5. Are citation formats available on the site? Yes No

TECHNICAL/DESIGN

6. Is the date of the last update available? Yes No

7. Does the internal documentation (source code) give:

the name of author/teacher, Yes No

the creation/revision date, Yes No

8. Is the design consistent within the site? Yes No

9. Does the site require additional hardware/software? Yes No

10. Is the navigation through the site clear and easy to use? Yes No

ACCESSIBILITY

11. Is a W3C accessibility icon on the page? Yes No

12. Does the web site pass the Bobby web accessibility test? Yes No

13. Are background color/fonts appropriate? Yes No

14. Special coding used on the page: a. Tables? Yes No

b. Frames? Yes No

c. <alt.txt> tags? Yes No

15. Is an "under construction" icon or flashing/blinking icon present? Yes No

16. Does the page open in Netscape Communicator? Yes No

17. Does the page open in Internet Explorer? Yes No

18. Contact Reference by: email phone IM (only Yes tallied)

19. Internet/technology access/use policies posted? Yes No

Notes:

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Fig. 2. Questions for Evaluating Academic Library Web Pages

The Web site review was carried out during September 2002. This study did not require extensive statistical analysis. This effort was to establish baseline data and determine the kinds of information available on the Web sites. Simple comparisons of the responses are sufficient at this time.

Results

The following research questions were established in the introduction.

1. Do standards exist for content, design, and accessibility of library Web pages?
2. Do Missouri academic library Web pages meet the accessibility standards of the W3C as represented by BOBBY?
3. What are some basic criteria for design, content, and accessibility for library Web pages?

Data gleaned from the survey is detailed in the following paragraphs:

Nine Web sites have the date of the site's last update available, either on the individual page or in the source code. All eleven Web pages have electronic resources available to their students and provide access to at least some online resources from off campus. Five libraries provide access to Ready Reference materials, even if it is only a set of vetted links to online encyclopedias, dictionaries, or government Web sites. Only four libraries had direct links to citation formats their students will need to produce research papers. None of the Web sites required additional software to utilize their pages. All eleven of the sites were easy to navigate.

None of the eleven had a World Wide Web Consortium accessibility icon on the page. Nine used appropriate backgrounds and fonts, which aid readability for all users, but are especially important for those with vision or reading difficulties.

All eleven sites used tables on the page, which, if used as layout devices, can be incomprehensible to those using screen readers. None used frames, which can also make page navigation difficult or impossible. Only one site used alternate text tags (<alt.txt>) for pictures or graphics, another lack that reduces the information available to those using assistive technology.

All of the sites worked correctly when accessed using Netscape Communicator or Internet Explorer. Good page design mandates that pages should work correctly in as many formats as possible. It certainly seems reasonable that anyone using either of the two most popular browsers would be able to use a library Web site.

Considering the number of Web pages that do not use <alt.txt> tags (10 of 11), it is not surprising that none of the schools passed the BOBBY accessibility test. Those that did not fail because of the lack of <alt.txt> tags, failed because of the improper use of tables or layout features. These are all relatively simple items to correct and it is hoped that library Web designers will increase their efforts to upgrade all their pages in order to pass BOBBY.

It is surprising that responsibility for the library's Web presence is attributable to library faculty or staff at only six of the Web sites reviewed. It is unfortunate that none of the Web pages have the author listed in the source code and only three provide the dates of creation or revision.

Knowing who has provided the information and authored a Web page is vital to determining questions of reliability and authority. Almost more important than knowing who authored a page is knowing when a page was published, and only nine of the Web sites had the date of the last update available. In many cases, the pages have no contact point provided. This lack prevents users from easily reaching a responsible person in case of questions about the Web page. Library Web page designers are failing to provide users information that we, as librarians, tell them is important to have in evaluating the reliability of a Web page.

All the library Web pages provide access to electronic resources. These range from commercial products such as the EBSCOhost database or Lexis-Nexis to online encyclopedias and dictionaries. Most of the libraries have some of their resources available from off campus, either as free World Wide Web sites, or commercial products accessible via a password or proxy server.

Although Web design and accessibility standards have been developed and discussed on the Web and in the literature, there is still scope for considerable research and discussion on those issues. More is being written about pedagogical goals and Web page content, but the topic is still largely neglected, presenting opportunities for additional research.

Standards for accessibility have existed for years; the Web Accessibility Initiative Web site details the issues and offers solutions. It is unconscionable that, twelve years after the ADA became law, none of the Web pages reviewed passed the BOBBY accessibility checklist.

This situation may be partially attributable to the lack of library Web page criteria. Librarians often understandably feel they simply lack the time to take on a new responsibility, especially if there are no guidelines in place to help them in the beginning.

Recommendations

To that end, the researcher offers this short list of Web page design suggestions:

- There is no need to learn HTML at first; perfectly serviceable, attractive pages can be written using inexpensive software or even freeware downloaded from the Internet.
- Keep it simple. Avoid odd color schemes and flashing/blinking elements. A light background and a dark, simple font are always readable. It doesn't matter what your school colors and mascot are – if a page is difficult to read, it has failed its purpose.
- Do not use frames. Frames are an unnecessary complication, affecting how pages print and how links work.
- List page authors and the creation/revision dates in the source code. Be proud of your work and take responsibility for it. Put your name and update information along with an e-mail link on the bottom of each page you write.
- Make it easy to navigate your Web site by having consistent, identifiable navigation mechanisms on each page.
- Keep the design as flat as possible; research indicates that if users have to go more than three levels into a site to find what they need, they will go elsewhere.
- A librarian, or someone on the library staff, should be responsible for both the content and design of library Web pages.

- Any electronic resources available at school should be available online.
- Provide a set of Ready Reference links to assist those working from off-campus.
- Include links to citation formats the students will need.
- Keep the library pages current. Check the information and make corrections on a regular basis. Bad information is worse than no information. Make sure that all links function and repair or remove any that do not.
- Take advantage of the help from W3C and other accessibility sites to make the pages available to everyone who uses them. Use a service such as BOBBY to analyze page accessibility. Post the appropriate icon on the page so that everyone can see that the effort was made to meet accessibility requirements.

A Web site does not have to be complicated; often the best are simple and straightforward. There are many resources on the Internet that will help library personnel produce outstanding Web sites. There needs to be a concerted effort to train librarians and other information professionals in both Web page design and accessibility and content requirements.

It was not so long ago that Web pages were an exotic innovation. As the library profession gains further experience and expertise in maintaining a Web presence, it will be expected that refinements such as development of standards for content and meeting accessibility requirements will become more common.

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The Secrets of Full-Text Databases:
The Overlap between a Same Vendor's Subject Database and General Database, and the Differences between Different Vendors in Embargo

Xiaotian Chen

Xiaotian Chen, MLS and MA, Electronic Services Librarian/Assistant Professor, Bradley University, Peoria, IL 61625, chen@bumail.bradley.edu

Abstract

This presentation tries to reveal some "secrets" of full-text databases. First, it uses data to show that the full-text component of a subject database is often either a subset of a general database of the same vendor, or considerably overlapped with the general database. For example, almost all the full-text titles on Wilson's Applied Science and Technology Full Text and Education Full Text can be found on Wilson's WilsonSelectPlus or OminFile Full Text. Second, it uses data to show the huge differences between vendors in handling the ever-growing full-text embargo issue. The percentage of embargoed titles in similar databases from different vendors varies greatly, and the same periodical title may not be embargoed on all databases. Even if the same title is embargoed everywhere, there is still the difference whether or not vendors will put bibliographic citations in their databases before full text becomes available. It is important for librarians to be aware of these full-text databases "secrets", so that informed decisions can be made in licensing databases as well as in directing users to appropriate information resources.

Copyright Compliance on Campus

Judy Druse, Susan Jarchow, and Brenda White

Judy Druse is the Curriculum Media Librarian at the Mabee Library, Washburn University, where she has been employed for the past fifteen years. She also serves as the library Webmaster. Judy received the Herrick Award for Outstanding Service to the University in 2001. She received her Bachelor of Science in Education degree from Northwest Missouri State University; her library science degree is from Emporia State University.

Susan Jarchow has over seventeen years experience at Washburn University and currently serves as Assistant Director and Manager of Web Services for Information Technology Services. Responsibilities include overseeing Washburn's public web site, portal web site and online education. She serves as the designated copyright infringement claim agent for Washburn University. Besides web copyright, Susan has an interest in the issues of web accessibility and computer policy and law.

Brenda White is currently Manager of Instructional Media at Washburn University where she has been employed for the past nineteen years. Under her direction, campus users can utilize technology in the areas of satellite down-linking, television courses, interactive videoconferencing, video/audio production, video/audio streaming, Educational Television programming on the Washburn University Cable Television-CH 13, and various labs and classrooms with multimedia equipment in a variety of forms. She has a Bachelor of Arts degree in Journalism and Mass Communications with an emphasis in Radio and Television Broadcast/Production from New Mexico State University. Her graduate degree is from Kansas State University in Educational Technology.

Abstract

The landscape surrounding computers and cyberspace, distance learning, and copyright continues to change rapidly, presenting major risk management challenges for educational institutions. The sheer volume of copyrighted materials available through educational institutions makes copyright infringement a concern. The 1998 Digital Millennium Copyright Act (DMCA) outlines the actions that institutions can take to reduce copyright infringement liability. If faculty, staff or students engage in copyright infringement, institutions can be protected against liability by taking certain actions, including providing information materials to all system and network users describing and promoting compliance with US copyright law. As newer technologies make copyright infringement easier and less detectable, academic librarians face the challenge of educating our students and faculties about the ethical use and dissemination of information. This presentation will describe the collaborative endeavor undertaken by Information Technology Services and the Mabee Library to develop a Web site that addresses questions regarding copyright and "fair use" raised by students and faculty. The URL is of the Web site is: http://www.washburn.edu/copyright. The Web site provides "rules of thumb" for the "fair use" of books/periodicals, television, music, film/video, and multimedia and a true/false quiz. Scenarios are described which faculty must decide is or is not "fair use" according to US copyright law. A demonstration of the Web site will be included in this presentation.

From Sales Representative to Librarian: Using Sales Skills to Improve Library Liaison Work

Connie Ghinazzi

Connie Ghinazzi traveled for fifteen years as a professional sales representative and trainer for Ortho-McNeil Pharmaceutical, Raritan, NJ. She completed her MA in Library and Information Science at the University of Iowa in July 2001 and currently delights in acting as Reference Librarian/Liaison to the Natural Sciences Division at Augustana College, Rock Island, Illinois.

Abstract:

Selling skills, honed in a previous career as a professional pharmaceutical sales representative, apply equally well in developing liaison relationships with faculty. In both pharmaceutical sales and academe, the primary audience is a highly educated and very specifically trained group (physicians or professors) who function as experts with their own less well-informed customer base (patients or students). Teaching styles, like prescribing habits, can become ingrained over time. By applying a few sales techniques, liaison librarians can stimulate better collaboration with faculty in both information literacy and collection development efforts. This article adapts well-recognized practices from leading business/management writers to academic librarians interacting with faculty members. These techniques were developed for a workshop on this same topic presented at Augustana College, Rock Island, IL.

Introduction

We are all creatures of habit. People tend to get up at about the same time, eat the same breakfast, shop at the same stores, and go to the same job. Habits create continuity in our lives allowing us to function more easily.

People break patterns by choice or necessity, but studies indicate it takes from twenty-five to forty-five days to develop a new habit (Horowitz). People are more likely to revert to their old ways than make permanent changes. That is why it's hard to lose weight, exercise more, or get out of unhealthy relationships. This article is designed to instigate a change of habit in how librarians and faculty interact.

Many articles have been written about the threats to academic libraries because of lower usage figures, increased substitution of the "free" Internet for traditional library resources, rising cost of materials and other concerns. All are part of a larger change occurring in academic institutions as they undergo a paradigm shift, moving from missions focused on instruction to missions focused on, "producing learning with every student by whatever means works best" (Barr 12).

As the emphasis becomes more about learning, the role of the librarian also changes, requiring more dynamic, proactive involvement in collaborative learning. Adopting a paradigm, long familiar in business, of delivering the right product to the right people at the right time is essential as librarians focus on student learning (Frank 90). More traditional librarian roles emphasizing "just-in-case" rather than "just-in-time" activities like collection development become less urgent. Academic libraries and their librarians have to recognize they are part of the business of higher education, and develop marketing skills and salesmanship necessary to staying relevant in their institutions.

Marketing skills have long been part of the sales training world where understanding the customer, their needs, and how services/products can fill those needs, is critical for success. As the needs of library users change, so must the actions of librarians. Specific ideas reworked for librarians from marketing literature to meet this challenge are:

- Adapting the features, benefits and needs satisfaction sales model to the academic community
- Developing a proactive approach that supports goals of both faculty and librarians
- Recognizing four basic personality types and communication skills that work best with each type of person
- Giving librarians "the words" to improve collaborative efforts with faculty
- Using combination visual/verbal messages for the greatest impact

Moving through these discussions, it is helpful to have a specific faculty member in mind. Think about how the ideas might work with that person. Imagine trying this with a new faculty member or someone you have worked with successfully in the past. By actively role-playing a real scenario, the interaction is already taking place and being modified in your mind, making it easier when talking with the person. The goal is for librarians to feel a sense of confidence and urgency about taking a more proactive role on their campus. It is up to academic librarians to initiate, nurture, enjoy and more than anything else, act, to develop the collaborative roles with faculty in our academic communities.

Needs Satisfaction Sales Model

"I never forget that people hate to be sold, but they love to buy" Spencer Johnson (43).

The basis of all selling situations is called the Needs Satisfaction Selling Model. This scenario is so widely accepted that it is not credited to a single individual. There are three parts to the model, **needs** to be satisfied, **features** of products or services, and **benefits** derived from the features that might fill those needs. The two active participants in this equation are the customer and the seller.

Everyone has been in these situations before, sometimes acting as a customer with needs that require satisfaction and sometimes as a seller who is offering services or products. Visualize the librarian as the seller with one main customer, the faculty and indirectly, the students (see fig. 1). Although there are many instances when the goal is working directly with students, for the purposes of building communication skills, concentrate on faculty as the primary customer.

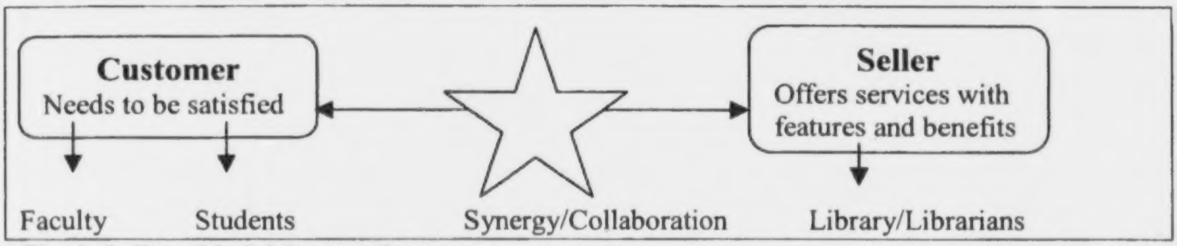
Customer
Needs to be satisfied
Faculty
Students
Synergy/Collaboration
Seller
Offers services with features and benefits
Library/Librarians

Fig. 1. Selling Model Interaction

Librarians need to understand the services they offer in terms of the features or characteristics of that particular service and the benefits that result. Unfortunately, the tendency is to shape ideas around what they think a client needs rather than real needs that require satisfaction (see table 1). Until the customer commits to that need being fulfilled by a service offered, the synergy does not occur. Instead of developing a laundry list of all the services the library provides, it is more useful to switch the table around in its emphasis (see table 2). The specific examples are helpful in showing the change of emphasis from services offered to customers' needs being fulfilled.

Table 1
Needs Satisfaction Selling Model I

Library/Librarian services	Features	Benefits	Faculty needs satisfied with this service
Classroom instruction	Tips about using library resources	More efficient searching specific to assignment	Saves time/efficient Better results Clearer understanding of search process
Print and electronic resources through integrated library catalog			
Reference desk instruction			
Campus committee participation			

Table 2
Needs Satisfaction Selling Model II

Faculty Needs to be Satisfied	Library/ Librarian Services	Features	Benefits
Students successfully learning in their classroom.	Integrated classroom instruction	Library resources/ searching skills specific to assignment	Another expert voice Up-to-date on resources/techniques
Good evaluations			
Personal research goals			
Students produce higher quality assignments			

When the focus is on the customer and not library services, librarians may find there are some faculty needs that library services can't fulfill and some services being provided that have no customers. However, what quickly becomes apparent is that **many services do satisfy customer needs**. Seize and develop these as opportunities in conversations with faculty. The tables represent only a few possibilities and may not apply to every institution. Some boxes have been left blank to stimulate evaluation of a college's unique needs satisfaction model.

Developing a Proactive Approach

"Fused visions propel us to synergistic success. Conjoint dreams do not imply sameness; they suggest reciprocity and mutuality" Chip Bell (77).

This idea of shared vision or working with purpose is found frequently in sales literature. Developing a more proactive stance is the first step advocated by Stephen Covey in The Seven Habits of Highly Effective People: Developing the Character Ethic. This book was one of the first to look beyond superficial personality training techniques to truly changing people's approach to the world. The steps Covey outlines can benefit academic librarians as they embrace this paradigm shift. As more academic work becomes interdisciplinary, faculty members need librarians to function as proactive information professionals to meet their and their students' needs for increasingly different information resources and services (Frank 93). Developing shared vision requires librarians understand what their customer wants. Two questions to keep in mind when talking with faculty about their expectations are:

- What do you like about what you already have from students?
- What do you want that you don't have?

Listen closely to the responses and then summarize key points to let them know you have understood. Most important, clearly point out the differences between what they have and what they want, so they can recognize their problem and discover the results they want (Johnson 47).

An example of a phrase that works is "It sounds like you are happy with their __________ skills but not their ability to _______________. So you'd like to have them be able to _________." Another might be, "You have found students good at ___________ but having difficulty doing _______________. You want this assignment to help them improve their ability to _________."

This step of seeking to understand, then to be understood, is critical in building relationships. Covey says, "Our tendency is to listen autobiographically. We evaluate – we either agree or disagree; we probe – we ask questions from our own frame of reference; we advise – we give counsel based on our own experience; or we interpret – we try to figure people out based on our own motives and behavior" (245). Most people do not listen with the intent to understand; they listen with the intent to reply. Librarians have to walk in the faculty's shoes, but remember to take their own off first.

As librarians engage in empathic conversations with faculty they need to keep their professional goals in mind. For instance, if a goal were to increase collaborative classroom instruction between faculty and librarians, then they would want to communicate:

- Purpose – the faculty member's unfulfilled need as a reason for working together (Why)
- Process – what the faculty member can expect if they use our services (What)
- Payoff – how it will benefit them for the time they invest with the librarian (How)

When this information is clearly delineated and understood by both parties, agreement is close. Then it is a matter of circumstance as to whether the new initiative will take place immediately. Librarians must communicate to faculty that their services are inherently purposeful. They need to remind themselves they "... do add value. [They] help people solve problems, seize opportunities, and by acting, feel better about themselves" (Johnson 26). Then if the timing is not right, the seed planted may come to fruition later.

Action Steps

"*Look at goals, then behavior and see if it matches.*" (Johnson 71)

Being available for impromptu conversations is important. Tom Peters, in his book, In Pursuit of Excellence, calls this "Management by Walking Around" (92). Get out of the library and into places where faculty mix informally. Just as in business, more partnership building is done in casual settings or purposeful visits than in meetings with set agendas to accomplish this task. Some simple ideas to try are:

- Personally distribute Choice cards to departments. Include easy instructions on how faculty members can request books for the library collection.
- Selectively e-mail reviews, articles, Web pages, Table of Contents services, etc, you find that you think might be helpful to specific faculty members.
- Act as a guest in their office.
- Lunch with someone new on campus or someone you want to know better.
- Attend department functions, presentations and exhibits.
- Be available to chat, but have a plan in mind. An underlying purpose is to _______.

- Have conversations about information literacy skills in entry-level majors classes.
- Be prepared to articulate how information literacy or critical thinking skills might work into curriculum plans for the department.
- Talk about collaborative successes with other faculty as examples of the possibilities. This can stimulate new ideas with the current faculty member.

In the preparation time, are you thinking about what could go wrong? Instead of reviewing possible objections, think, "Whenever I am successful, I know I have chosen, consciously or unconsciously, to use the positive thoughts that created my success" (Johnson 34). Think on your feet. Have alternate plans for talking to other people ready. Always be actively listening. How does what you hear fit into the purpose you had in mind? Does it generate any other interesting ideas? Percolate and expand on ideas as you keep talking to people. Be ready to stretch your own perceptions of what's possible.

NO!

They say no!?! Rejection is an everyday occurrence in the business world. A recurring mantra for every sales person is "no means not yet" and then, "if they do say no, it's not personal." Many factors influence why the services, features, and benefits being offered don't fit a customer's needs right now. It doesn't mean they will never be interested. But it might also mean the librarian doesn't really understand the needs of the faculty and is thinking more about available services. If that's the case, reviewing active listening strategies is helpful.

Never give up. Experienced sales professionals believe it takes seven calls to close a new deal, compared to three contacts with a satisfied customer with whom you've already done business (Horowitz). Revising the description of services or satisfying a different or more specific need may get the desired result.

Communicate in a Style That Works Best for the Customer

Another problem may be that the librarian is focused on a communication style that works well personally, but is not what works best for that particular faculty member. Having a rough idea of a person's behavioral characteristics/communication style helps relate more successfully.

The Behavior Characteristic Model divides people into four basic behavior groups. Figure 2 gives a review of Promoter, Supporter, Controller and Analyzer tendencies, needs and ways they prefer to interact. Just because people prefer receiving information in one way doesn't mean other methods of communication aren't still valuable. By initially using a preferred method, there may be greater acceptance of ideas and materials presented in other ways. Think again about the target faculty member. Where does that faculty member fit on this quadrant? Where does the librarian?

For instance, a librarian and a controller type professor are collaborating on a particular assignment. Because this person is primarily interested in outcomes, the librarian should focus on what the professor wants students to be able to do, and which skills will produce that result. It could be presented in a concise informative manner using bullet points to keep their interest. After there is buy-in from the faculty member, personal stories or analogies may bolster support or stimulate alternative ideas.

Promoter	Supporter
• Futuristic, looks at the big picture • Needs to be seen as forward thinking person • High energy, goal oriented • Responds well to praise • Use analogies like . . .	• Best overall communicator, loves to discuss • Wants to know how you can help everyone get along and be in harmony • Use personal stories and anecdotes
Controller	**Analyzer**
• Focused on outcomes • Task oriented • Needs to know how idea affects results • Offer expert proof • Get to point quickly	• Details and history, oriented more to past than the future • Needs guarantee nothing will go wrong • Just the facts and statistics • Prefers to listen than to be shown a presentation

Fig. 2. Behavioral Characteristics (Horowitz; Virginia Tech)

These quadrants are very general and most people won't act completely within one group. Generally people understand how they personally like to receive information. This model provides clues as to how to best communicate with people in other quadrants.

Combining Visual/Verbal Messages for Greater Impact

The most successful instruction uses an optimal balance between visual and verbal learning modes. The Weiss McGrath report, prepared to measure information retention in juries, found that seventy-two hours after a verbal presentation people retained only 10% of the key information. With a visual presentation, they retained 20%, but a combination verbal/visual showed a 65% retention rate (Bernstein). Using combined visual and verbal messages in talking with faculty and in student instruction situations increases information retention. Incorporate the library logo on all instructional material and handouts. It serves as a reminder that resource expertise is available there and reiterates the value-added message.

Tell me and I forget, show me and I remember, involve me and I understand. The more hands-on conversations/presentations are with faculty members, the more understanding is created. Creating new approaches can't take place in a vacuum. In generating new ideas it is helpful to:

- Establish distance from SOS -same old stuff; old ideas can smother fragile new ones.
- Have lots of stimuli; books, photos, toys, snacks, magazines, etc.
- If stimuli are clearly related to the creative challenge, the result is a greater quantity of ideas. If stimuli are unrelated, there is greater creativity in fewer total ideas (Hall 72).

The new ideas generated may range from useful to frivolous, but the process of creation is exciting and marks a move towards more fulfilling liaison relationships. Developing the ability to reach beyond an adversarial or polite relationship into synergistic collaboration with faculty pays great dividends to everyone involved.

Moving Beyond Step One

"Grazing is good, but great ideas require deep reading, incubation and contemplation" (Stepp).

The ACRL Information Literacy Standards emphasizes developing critical thinking skills in college students. One of the most exciting aspects of being a proactive librarian is integrating these standards into departmental curriculum and specific course assignments. As more attention is paid to learning instead of instruction, the emphasis becomes **what students can do** in acquiring their learning more than what facts they know. The need for students to be able to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." has never been greater (American Library Association). Faculty and librarians have to ask the hard questions:

- Are students able to research effectively, moving from general resources to more specific in a variety of subjects?
- Can they evaluate information and make new knowledge from the process?
- Can they integrate this learning across departments and disciplines?
- How can all instructors, departmental or librarian, mentor students in making the learning process their own?
- Are faculty needs and librarians' goals in tandem with this new paradigm?

Conclusion

"Do it your way and it will probably work for you; do it someone else's way and it probably won't." Old Sales Adage

This article began with the challenge to develop new habits. Every habit has three attributes that can be visualized in three interconnecting circles:

- Knowledge (what to, why to)
- Skills (how to)
- Desire (want to) (Covey 48)

For librarians to meet faculty needs, they may need to develop new knowledge/communication skills. Second, librarians must see themselves doing the actions, using their right brain to visualize the experience. Third, they must use their independent will to do it. As librarians try these new techniques, they must make them a part of themselves. People can sense when words and actions come from superficial techniques rather than one's inner core and will sense that duplicity. As you become comfortable with new language and practices, the conviction expressed will overcome any awkwardness that may occur.

The academic world is changing and if you aren't moving forward, the competition is passing you by. Librarians can be the catalysts to better collaboration with their faculty. Review library and personal liaison goals frequently to be sure they meet faculty needs. Be proactive in trying new ways to develop relationships. Visualize and then use new techniques that require stretching out of your comfort zone. Recognize clues in others as to their most comfortable communication style and use it. Lastly, take action. Today is the day to start creating a new habit.

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Evolving Access Issues: Electronic Reserves

Jennifer Green

Jennifer Green received her M.L.S. from The University of Texas at Austin in 1995. During a nine-year period, she was a manager for six different Barnes & Noble stores. Before turning to academic librarianship, she also worked for Innovative Interfaces Inc. for one year. In 2001 Ms. Green joined Grinnell College libraries as the Public Services Librarian.

Abstract

If electronic reserves are the answer, what is the question? Electronic reserves add many access benefits to traditional course reserves offerings, but they are only part of the information outlook a campus has for considering delivery of course materials. So many means of connecting students and information can lead to some confusion for professors trying to set up their course materials in a manner both advantageous to their pedagogical goals and fiscally responsible for their students. In this presentation I would like to discuss the benefits, as well as some of the pitfalls we encountered in implementing electronic reserves and provide a look at what one campus has done to integrate electronic reserves as one mode of information provision in the larger scope of course material delivery.

ARL's Collection Analysis Project: Continuing Feasibility for a Medium-Sized Academic Library

Jan Guise and David Feinmark

Jan Guise is Coordinator of Reference & Instruction at Mabee Library, Washburn University in Topeka, Kansas. She earned her MLIS degree in 1999 from the University of Alberta in Edmonton, Alberta, Canada, and has been at Washburn University since 2001. She previously held positions at the University of Toronto (Ontario) and Red Deer College (Alberta). She has a Bachelor of Music degree from Queen's University (Kingston, ON) and a Master of Music degree from the University of Western Ontario. Jan serves on both the Policy Committee and the Management of Instruction Committee of the Instruction Section of ACRL.

David Feinmark is currently Coordinator of Collection Development and Management at Mabee Library, Washburn University in Topeka, Kansas where he has coordinated collection development since 1981. His previous experience has included work as a library consultant and as the librarian at the Lunar and Planetary Laboratory at the University of Arizona. He has an MS in Library Science from Simmons College in Boston and an MBA from Washburn University.

Abstract

Mabee Library has just finished year two of a three-year strategic plan. One of this year's areas of emphasis was Collection Development. We wanted to assess our current collection development strategy and review best practices to ensure we were keeping up with the needs of users and adequately addressing the impacts of digital information.

The Association of Research Libraries' (ARL) Collection Analysis Project (CAP) was the chosen assessment tool in part because of its solid reputation, and also to help ARL test CAP's continued viability. ARL developed CAP as a facilitated process to help its member libraries examine their collection development and management programs. CAP was in use prior to 1985 and generally consists of a historical analysis of the library collection including its growth patterns, its strengths, and its weaknesses as well as an environmental scan of the educational, financial, political, and legislative frameworks within which the library operates.

CAP's broad emphasis on historical and environmental factors has proven both timeless enough, and inclusive enough, to be used by this non-ARL library and to facilitate a discussion of the impact of technology. The research, data collection, and report writing, however, combine to make CAP a labor-intensive ten-month process not to be entered into lightly.

This paper will report on one library's recent experience with CAP, its value in examining staffing, budgeting, and assessment for collection development, and implications for other similar-sized institutions.

Introduction

Collection Analysis Project (CAP) is an assisted self-study methodology originally developed by the Association of Research Libraries' (ARL) Office of Management Studies in the late 1970s. It is an assisted self-study procedure to allow academic and research libraries to continue their collection development efforts while responding to the double-edged problem of relatively flat materials budgets and increasing materials costs. The CAP methodology was field tested at various libraries before being available for general release around 1980. The last major use of CAP was at SUNY, Stony Brook in 1992. CAP has been called a "mini-strategic plan" for a library's collection development and management program and as such is a relatively time consuming process. The CAP Manual gives a time frame of seven to nine months. However, at the Mabee Library of Washburn University this process has lasted approximately one year from inception to Final Report. Another important facet of CAP is the thorough grounding in the collection development process itself that the staff members involved in the Project will develop.

Methodology

CAP is divided into three major parts. The first part consists of developing the underlying collection development (CD) goals and objectives. The second part consists of the historical development of the particular library's collections (such as physical dimensions and strengths and weaknesses) and the research and analysis of both internal and external environmental factors (such as resource sharing and scholarly publishing) which affect CD. These two sections should be put forth in both narrative and statistical form. To be truly effective the goals and objectives should be consistent with those of both the library and the parent institution. The first three major components (CD goals and objectives and the environmental and historical analyses) are compiled into an "Interim Report" which is normally submitted to the Dean/Director of the Library. It is also used to furnish the requisite background information for the development of the third part of CAP, the in-depth analysis and recommendations for improvement of specific aspects of the library's CD program. Traditionally these aspects are: organization and staffing, collection assessment and evaluation, budgeting and fund allocation, resource sharing, and preservation.

The "who" is as important as the "how". The who consists of a Study Team, several Task Forces, and an ARL facilitator. The ARL facilitator will train the Study Team in the CAP process (usually in a day long training session) and be available as a resource for the duration of the study. However, the focal point of this process is the Study Team as it is responsible for the overall conduct of CAP. The Study Team performs the initial analyses, prepares the Interim Report, coordinates the work of the Task Forces, and prepares the Final Report. The library's collection development officer (CDO) is usually the chairperson of this group. In conjunction with the head of the library, the CDO develops Task Force membership and charges. The Task Forces are composed of library staff from throughout the library and assigned responsibility for the review of one area of the library's CD program (organization, assessment, budget, etc.). The results of their efforts are made available to the Study Team that compiles a Final Report and recommendations for change. Other major players in CAP are the head of the library and the faculty. At the beginning, it is the head of the library who will be the individual making the final decision for the library to even participate in the Project. Additionally, the library head's commitment, support, and the communication of these to the staff are essential for the successful completion of the Project. Traditionally, the library head also is responsible for the selection of the team members as well as the preparation of the written charge for them. The study team is expected to keep the director informed of CAP's progress periodically throughout the process.

The faculty, while not directly involved, can provide useful perspective to the CAP participants regarding whether the library's collections are meeting their needs and expectations.

Mabee Library, Washburn University's Experience

Washburn University is a medium-sized public metropolitan university (approximately 4,600 FTE students and 275 FTE faculty) offering undergraduate and selected master degrees through five schools and colleges. The main university library, Mabee Library, contains over 335,000 print volumes and almost 600,000 microform units. The library also receives over 2,300 periodical/serials titles and adds over 11,300 volumes annually. Staff consists of nine professional and 10.5 support staff.

Mabee Library developed its first formal Strategic Plan in July, 2000 (for the years 2000-2003). Throughout the Plan there was heavy emphasis on assessment of programs and services through such mechanisms as focus groups and the Library's participation in the LibQual User Satisfaction Survey. One of the nine Plan goals was to ensure an effective collection development program. The main strategies toward this goal were to analyze both the existing organizational model and the resource allocation method to ensure that they both met the needs of the university and its academic priorities. As a major programmatic area collection development has been chosen as one of the areas of strategic emphasis for the Plan each year since then.

As an evaluative mechanism with a proven track record and developed by a reputable organization, CAP was the program selected in the Plan's first year to assess the library's entire collection development program. In addition to the library's interest, ARL was anxious to test the continued viability of the CAP methodology in a small to medium-sized academic library under the current environment.

The Dean of the Library, the CDO, and the ARL facilitator met in the Fall 2001 to discuss how the CAP process would dovetail with the Library's collection development goals and objectives and an approximate timeline for the Project. The Dean invited four library staff to serve on the CAP Study Team, which was to be chaired by the CDO and all readily accepted. The process actually began in November 2001 at a full-day orientation session. The Dean, while thanking them for their participation, gave the group their charge and emphasized the importance of this task to the future of the Library. The facilitator provided the Study Team with an orientation to the CAP methodology and team building approach. Because CD goals and objectives had already been developed as part of the Library's Strategic Plan these were distributed and discussed by the group. Consensus was reached on various data gathering tasks that were required for the Interim Report. It was agreed that the Study Team would meet about every three weeks to update each other on their progress and to discuss any potential problems. Additionally, summaries of the meetings would be forwarded to the facilitator to garner feedback for the group.

The Interim Report was completed in April, 2002. Three major areas were identified for investigation by Task Forces (budget, organization and staffing, and assessment and evaluation). The CDO developed the charges for the Task Forces from the Interim Report. Three Study Team members agreed to chair these Task Forces. Additionally, two library staff members agreed to serve on each Task Force. All Study Team and Task Force members met with the facilitator in mid-May, 2002 for a half-day orientation session regarding the CAP methodology, the Task Force charges, and a proposed time-line. The Dean also attended and, again, thanked all the participants for their willingness to serve and emphasized the importance of their task to the future success of the Library.

The first iteration of each Task Force Report was submitted to the Study Team in July, 2002. Comments and suggestions about the Reports were received from the facilitator, the Dean, and the CDO. These were discussed at some length. The chairs returned to their to Task Forces to rework and edit the Reports which were resubmitted by September, 2002. The second iteration occurred in September, again including a Task Force meeting with the facilitator. The Study Team is currently reviewing the Task Force Reports and their recommendations for change. The Study Team will also write the Final Report (incorporating the recommendations) for submission to the Dean by the end of November 2002.

Pros and Cons—What Worked and What Didn't

The greatest benefits of CAP are twofold: the evaluation of process with recommendations for change and the educational aspects for members of the Study Team and the Task Forces. Along with detailing and documenting the current processes, each Study Team also performs a literature search and/or contacts peer institutions in order to determine best practices. While many current collection development processes are standard, there are also many that are institution specific, their rationale lost in the past. There are also many practices that have not kept pace with the changing times and technologies in academic libraries. This is where the recommendations for change become critical. Well thought-out recommendations based on documentary evidence can be implemented over the next few years. The educational process of the CAP methodology has greatly improved the overall understanding of process, procedure, and rationale for most of the participants in the project as well as most of those other staff members who read the document.

The major drawback to CAP is the considerable investment of staff time. With a relatively small staff this can prove to be a hardship. In tandem with this is the potential lack of experience and expertise of some staff members in the literature of the field of collection development as well as the statistical skills needed to analyze various trends and mathematical models. This can become part of the learning process described above which will prove useful to both the individual and the library in the future.

There have been several "false starts" during various facets of CAP. These were primarily due to miscommunication. Despite periodic Study Team and Task Force meetings (both with and without the ARL facilitator) and constant e-mail, communication there have been instances where misunderstandings have occurred. We cannot overemphasize the need for as much communication as possible between and among all parties involved in CAP. As one of the basic programmatic areas of an academic library it is vital to the success of the organization to translate it's CD goals into a workable reality.

Usage Statistics: Interesting Changes and Challenges

Melissa Holmberg

Melissa Holmberg is the Electronic Resources/Science Librarian at Minnesota State University, Mankato. As Electronic Resources librarian, she keeps the staff up-to-date on content and interface changes of current electronic subscriptions, tracks usage statistics and license agreements, and arranges and announces trials for electronic resources. She received her MLS at the University of Missouri-Columbia and her second Masters in Technical Communication at Minnesota State University, Mankato.

Abstract

Trying to compare and analyze varying statistics becomes a challenge as librarians continually reevaluate and shape collections to meet the changing needs of users. However, discovering sharp changes or anomalies in statistics can be just as challenging, and often more interesting, to analyze. At Minnesota State University, Mankato (MSU), a comprehensive university with 3,200 print subscriptions and 14,000 electronic serials, this author began systematically gathering usage statistics for MSU's electronic resources two years ago. This author looks at the changes and challenges faced by MSU when gathering and analyzing statistics, in particular those statistics that report the number of articles accessed from full-text resources and the number of print serial browses. This author also illuminates some of the interesting anomalies and sharp changes in MSU's usage statistics and explores possible reasons for those trends. Such reasons include:

- Increased awareness through promotion or instruction
- More content
- Serials offerings meeting the needs of specific disciplines
- User preferences
- Increased access
- Ease of finding articles

Finally, this author explores future research opportunities to better explain the usage trends at MSU.

Introduction

At MSU, we began to earnestly gather usage statistics upon noticing the downward trend of print journal accesses. The first year of the trend we justified as an adjustment to the campus moving from quarters to semesters. However, the usage of print journals continued declining over the years after the conversion to semesters. Thus, we wanted to explore if patrons were using our full-text resources instead of the print serials.

Previous to this initial gathering of usage statistics, we kept an eye on the number of searches left in our FirstSearch account. Additionally, we monitored the turn-away statistics and, as needed, adjusted the simultaneous user licenses for our current non-site license subscriptions. Otherwise, we typically only glanced at the vendors' statistics we received and filed the data in a drawer.

Other libraries are gathering and analyzing usage statistics for a variety of reasons, including:

- Evaluating renewals with some consideration of usage
- Tracking print and electronic journal usage statistics to justify print cancellations in favor of online subscriptions
- Calculating cost-per-search and cost-per-access for assessment reports
- Justifying subscriptions to electronic back files
- De-selecting titles (Parker)

As we spend more on electronic resources, we too are beginning to rethink our use of statistics and to apply the data to our needs. Thus, some usage statistics will be reported to encourage continued financial support from the state and university. We are now utilizing statistics to determine to which disciplines we need to promote our services and resources. We will also evaluate usage statistics for possible discussions with departments about necessary changes in subscriptions to better meet information and research needs.

Challenges of Comparing Usage Statistics: Limitations of Comparing Print And Electronic Serials Statistics

Like Drexel University, "our print statistics represent volumes or issues re-shelved rather than actual articles copied or read, while the e-journal statistics…represent articles accessed which may or may not have been read. The print use data is somewhat under-reported because, even when asked not to, users re-shelve journals after they look at them" (Montgomery). Additionally, we cannot determine if a user accessed multiple articles from a print issue. However, our usage statistics for print journals have been showing a steady and dramatic decline, corresponding to a steady increase in the usage of electronic serials. Thus, in spite of the inability to garner true usage statistics for print journals, the trend is noteworthy.

Another challenge for the comparison of statistics occurs with electronic serials. Some vendors only give quarterly statistics. Although monthly statistics can be gathered together into quarterly ones, our academic year does not follow the calendar year quarters. Thus, monthly reports from our vendors would be preferred for the more precise indications of high and low usage and possible corresponding high and low traffic at the reference desk. However, for consistency, we have chosen to report all data in quarterly or yearly increments and will pull monthly statistics from our in-house database as needed for internal analysis.

In analyzing our print and electronic serials statistics, the author has examined various possible explanations for usage trends, including access points. MSU's policy is to provide as many access points as possible. Thus, we included our print, fiche, and film serials in our SerialsSolutions Web pages. (We outsource our need for a comprehensive serials list to SerialsSolutions and receive alphabetical lists of all print, fiche, film, and electronic serials with links to the catalog and corresponding electronic resources.) We catalog all electronic serials which have title-level pages and which have URLs shorter than 150 characters (OPAC limitation). We add links to the catalog from electronic resources and turn on cross-database linking whenever these features are available. Thus, we are unable to use access points as an explanation for most trends we are observing in our usage statistics.

Challenges From Changes in How Vendors Collect Statistics

Although our method of collecting print usage statistics may change slightly when we migrate to a new (Integrated Library System) ILS, we will rarely face such a challenge with our print subscriptions. Unfortunately, vendors, in their never-ending quest to improve their products, challenge librarians every time they change their usage statistics. For example, when Project MUSE changed how they collected and reported usage statistics, librarians could no longer easily determine which journals had been accessed through the MUSE collection or how many articles were accessed. Fortunately, upon hearing from librarians, Project MUSE returned to their former reporting mechanism until they could perfect the new one.

Other vendors are planning changes that will affect our reports of usage statistics. Wilson will finally be collecting and reporting the number of articles accessed through their full-text products. American Chemical Society has recently developed a useful search engine, and the search statistics already reflect higher uses of the new search forms. Academic Press IDEAL is being merged into ScienceDirect. Thus, annual statistics for the number of full text articles accessed and for the number of searches conducted in these resources will not reflect an accurate picture for the current year. Inevitably, librarians and administrators will not remember this. Thus, additional footnotes will be required in our reports.

Changes in Statistics

Although many of our usage statistics for electronic resources have drastically increased in the past two years, a few are rather noteworthy. For example, the number of articles accessed in Academic Press IDEAL increased 246% in one year's time, most likely a result of increased access. We discovered in the past year that several titles had not been cataloged. Shortly after this correction, we provided additional access to the IDEAL titles through SerialsSolutions.

Likewise, the number of articles accessed through our JSTOR collections dramatically increased in one year's time (203%). While additional access to JSTOR titles was also available through SerialsSolutions, this increase may have occurred due to other factors:

- Significant increase in journals available in JSTOR collections, all of which are cataloged
- Cross-database linking to JSTOR articles available from our ABC-Clio, FirstSearch, and CSA databases this year
- Increased awareness of the JSTOR collection through workshops and grant projects.

Although we cannot compare usage statistics for the number of articles accessed in Applied Science and Technology Abstracts Full Text, we have seen an amazing increase in the number of searches upon changing our subscription to include full-text articles. Comparing the last year of usage statistics for Applied Science and Technology Abstracts without full-text to the first year we had the database with full-text articles, we saw a 1845% increase in the number of searches! Such a drastic increase could be attributed to increased instruction and promotion, but most likely the increase occurred simply from the addition of full-text articles. Thus, while our abstracting and indexing A&I electronic resources have shown increased usage in terms of searches, adding full-text to A&I resources can boost the usage significantly.

Overall Changes in Statistics

For the past two years, we have been systematically gathering and reporting usage statistics for the number of searches conducted and the number of articles and documents accessed. Since we began collecting these statistics, we have seen a 44% increase in the number of searches conducted and a 24% increase in the number of articles accessed.

Such increases can be attributed to several factors. As previously mentioned, we began subscribing to SerialsSolutions this past year. Several electronic resources recently added cross-database linking, providing users with one-click access to articles. Each year, we add more content through new electronic serials subscriptions. Additionally, we have been increasing our promotion of electronic resources through campus announcements, the student newspaper, and e-mail messages to departmental liaisons. We have been providing more instruction sessions, which allows us to teach more students and faculty about our resources. Lastly, incoming freshman often have more exposure to electronic resources prior to enrolling in college than freshman of earlier years.

Interesting Anomalies

None of these reasons, however, can explain an interesting anomaly, which has appeared in our usage statistics. The librarians who teach bibliographic instruction to the history and to literature classes include in-depth coverage of JSTOR in those sessions. Although there have been slightly more sessions given to history classes than literature, the number of articles accessed from the language and literature journals in JSTOR is 53% higher than the number of articles accessed from the history journals. The number of history journals that are only available in the JSTOR collection is higher than the number of language and literature journals that are only available in JSTOR. Linking from our history databases to JSTOR was available months earlier than linking from MLA; therefore, cross-database linking cannot explain this anomaly, either.

Another interesting anomaly is the discovery of high usage of Time magazine in ProQuest Nursing Journals. Although we suspect that students in introductory composition and speech classes are accessing the Nursing Journals for medical-related topics and then selecting the easier-to-understand articles, no data is available to confirm this assumption.

Future Research & Analysis

As we continue to analyze our usage statistics and adapt to the challenges posed by vendors as they change their reporting mechanisms, we will need to conduct other studies to better understand the usage patterns. For example, researching students' bibliographies may help us to identify which classes need additional instruction to steer students to more appropriate resources. Thus, we might be able to point students to the Health and Wellness Resource Center for articles from Time magazine and other materials appropriate to their research level in the introductory speech and composition courses.

To improve our collection development efforts, as well as our marketing efforts, we are currently creating an in-house database that will allow us to compare numbers of articles or issues accessed from electronic and print serials. Although we cannot accurately count the number of articles accessed from print serials, we plan to include those statistics for the purpose of comparing access regardless of format. We are planning to incorporate the subjects and classifications of each serial into this database. We can then pull statistics by those fields in an effort to determine if our collections are meeting department needs or if we need to increase the awareness of particular serials that are underutilized.

To improve our instruction sessions, we might also analyze the types of searches students are conducting. Although not all vendors break down search statistics by type (basic, advanced, natural language), the ones that do may help us to change our instruction methods. For example, if students are using natural language searches whenever possible, perhaps we should discontinue teaching advanced searching. Such analysis may need to be coupled with focus group discussions to better understand the students' choices and usage.

Conclusion

As we continue to track usage statistics, we expect to find other interesting trends to analyze and challenging adaptations to overcome. However, the need for gathering and analyzing usage statistics will never cease. We can use statistics to adjust our service patterns and change our subscriptions to better meet patrons' information needs. We can report statistics to funding government agencies and university administrators to not only justify our expenditures but to also support our future funding requests. Furthermore, we can observe usage trends just for our own curiosity, which ultimately keeps us interested in what impact our work has on our communities.

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In Search of the Missing Record: Investigating How Keyword Searching Is Often Not What It Seems

Michelle Holschuh Simmons and Mary Hammond Iber

Michelle Holschuh Simmons is the Consulting Librarian for the Arts and Humanities at Cornell College in Mount Vernon, Iowa. She is currently pursuing a Ph.D. in Language, Literacy, and Culture at the University of Iowa, and she holds an MA in Library and Information Science from the University of Iowa and an MAT in English from Minnesota State University-Mankato.

Mary Hammond Iber is the Consulting Librarian for the Sciences at Cornell College in Mount Vernon, Iowa. As an Adjunct Assistant Professor in the Library and Information Science program at the University of Iowa, she teaches Online Information Systems, Web Search Engines, and Science Resources. She holds an MA in Library and Information Science from the University of Iowa.

Abstract

Electronic database designers and librarians do not always define terms like "keyword" or "all fields" in the same way. This discrepancy has significant implications for the effectiveness of our information literacy instruction. Librarians have expectations that keyword or free-text searching in a database will retrieve all records in which search terms appear anywhere in a bibliographic record. Database designers often define field labels in a much more limited way than the syntax implies. Because we are able easily to retrieve relevant records in an electronic database, we naively assume a high degree of recall. In order to understand how a particular database interprets a search string, seeking records that are missing is as important as looking at the records we successfully retrieved. Additionally, exploring why certain records are not retrieved in a search makes us more intelligent searchers. This knowledge of database infrastructure, then, should influence the way we use databases and the way we teach our students to be sophisticated searchers.

In this session, the presenters will use several examples from commonly used databases such as EBSCO Academic Search Elite and OCLC WorldCat to elucidate the ways that we can be better teachers of information literacy when we understand the inner workings of databases. The presenters will be providing participants handouts with illustrative comparison tables across several databases. A URL link to the PowerPoint presentation will be included.

Introduction: Defining the Problem

Electronic database designers and librarians often do not define terms like "keyword" or "default fields" in the same way, and this discrepancy has significant implications for the effectiveness of our information literacy instruction. Through keen observation of records that are not retrieved followed by persistence in ascertaining reasons why these records have not been retrieved, we can begin to unveil what the database vendors seem to obfuscate.

Paper Indexes: Less Efficient but More Transparent

In the enthusiastic transition from paper indexes to electronic databases, the library community has largely failed to examine what has been lost when we abandoned the paper[1]. While electronic tools undeniably provide more powerful and flexible searching, they also disguise the search process in such a way that one cannot be sure how the tool is working and which records are or are not being retrieved. With paper indexes, the parameters of one's searching were unambiguous: look alphabetically for an author's last name or a subject heading, or perhaps for another entry. The searcher could determine which were the indexed fields through visual cues and a quick look in the preface of the index volume. Additionally, the searcher could determine definitively how many entries or pages of entries were relevant, using "see" and "see also" references to aid in the search.

Electronic Databases: The Overlooked Problems

With electronic databases, the keyword feature has muddied the searching waters. Many of us assume that in a keyword search, the database is searching the entire bibliographic record for occurrences of a search term. Widespread disparities in database vendors' search algorithms and in the application of search field labels seriously compromise users' ability to search in a thorough and sophisticated manner. An additional confounding factor is the lengths to which a searcher must commonly go to find definitions of the search fields in the database documentation. Frequent contradictions in definitions from various points in the help screens, or the complete absence of definitions in the help screens, cause even greater confusion for the searcher.

These problems are widespread in databases currently available. To illustrate our point, we have selected several tools commonly used in libraries today: OCLC WorldCat; EBSCOhost Academic Search Elite; and ERIC and W.W. Wilson Humanities Abstracts, both independent indexes accessed through the EBSCOhost interface. Realizing that the interfaces and algorithms for these databases are always changing, we are using these examples merely to demonstrate a concept that can be applied to other databases and other interfaces that will appear in the future.

Illustration: Keyword in WorldCat

The advanced search in OCLC's WorldCat through FirstSearch has the term "keyword" as the default search field. In library circles, "keyword" is commonly defined as an "individual word searchable in any field of a record" (Walker and Janes 301). Indeed, if one were to look at OCLC's Web site outside of FirstSearch, one would find a definition of "keyword" that is in concert with this commonly understood definition: "keyword" on OCLC's site is defined as "any word that is part of a record's bibliographic information" (OCLC). This definition, however, is in stark contrast to the definition available in the help screens within FirstSearch for the WorldCat database; here, keyword is defined as searching "geographic codes, map data, extended title, notes, and subject indexes" (OCLC FirstSearch). These fields, particularly geographic codes and map data, seem unlikely to be the fields users would expect to be searching with a keyword.

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[1] For an example of an analysis of the MLA International Bibliography in paper and electronic form, see Alexander.

More problematic than what fields are included, however, is what fields are not included, for example, author, table of contents, or publication information.

This contradiction in definitions, coupled with the very limited fields that are searched in a keyword search in WorldCat, create a challenging situation for all users, from neophyte to expert. Novice users' tendency to type in a few words and click "Search" without regard to the fields being searched is particularly ineffective in this database. However, since some results are almost always retrieved in a search in WorldCat, users would likely not realize what has not been retrieved. Only when doing a search for a highly specialized topic that retrieves few results coupled with a topic with which the searcher is very familiar might the searcher discover that a record is missing. This, of course, is a highly unusual situation—one that would rarely, if ever, occur for the population we primarily serve, undergraduate students.

Example: Author vs. Keyword in WorldCat

An example might illustrate this conundrum more effectively. If one were searching for everything in WorldCat written by Anne DiPardo, a professor of education at the University of Iowa, one might logically search her name as an author: *DiPardo, Anne*. With this search, one retrieves ten records, nine monographs and one Internet resource, all with DiPardo as an author, coming from the 100 field of the MARC record. However, if one does the same search, except changes the search field to keyword, one retrieves only a single record, a monograph that is not among those in the previous list of records.

In this single record, DiPardo's name appears as part of the table of contents, the 505 field of the MARC record. According to OCLC's documentation, the 505 field is one that is included in the "extended title" designation; therefore, words that appear in the contents are searched with a keyword in WorldCat. However, because WorldCat does not search the author field in a keyword search, this particular record was not among the ten retrieved in the author search described above; conversely, none of the ten were retrieved in a keyword search since the search term *DiPardo, Anne* only appeared in the author field, not any field that is searched in a keyword search. With this example, the difference between the results of the two searches is easily discerned; however, with most searches, a searcher would not know what he or she is missing when doing either a keyword or an author search.

Multiple Databases within One Interface: Inconsistency of Terms

The database products available on the market today tend to fall into two categories:

1) Databases that are produced by the database vendor and therefore are only available in that interface. For example, EBSCOhost's Academic Search Elite or OCLC's WorldCat.
2) Databases that are produced independently of a database vendor, but available through a number of database interfaces. For example, ERIC, H.W. Humanities Abstracts, MLA International Bibliography, etc. Because they are produced by an entity other than the database vendor, each of these independent databases can define search fields uniquely. This situation can cause confusion and imprecise searching when a user is accessing

multiple databases simultaneously, a seemingly appealing feature of the large database vendors like EBSCOhost.

Illustration: EBSCOhost

Even within databases governed by EBSCOhost, there is considerable inconsistency. Available through the EBSCOhost interface, Academic Search Elite, Humanities Abstracts, and ERIC are among the most commonly used databases in academic libraries today. These databases do not use the term "keyword" as a choice in the search options, but instead use the phrase "default fields" as their default searching label, a label that represents different field coverage depending on the database.

Example: How is "All" Defined?

During the summer of 2002, the EBSCOhost interface changed significantly, including a change of search label semantics in the advanced search from "all fields" to "default fields." One of the unique qualities about database products with a Web interface is that once changed, the user cannot return to the former interface to compare the functionality of the two versions. However, a Technical Support Representative at EBSCO assured us that the change had not affected the functionality (EBSCO Technical Support).

We did have the improbable but fortuitous situation of having in our e-mail archives a series of messages between us and our systems librarian about an anomaly we discovered in EBSCOhost Academic Search Elite in March 2002, providing us a rare opportunity to compare results before and after the change in interface. At that time, the search *Bernini* in "all fields" and *art** in "all fields" failed to retrieve a particular article about Bernini in Art Bulletin, even though the word "art" appears in this journal's title.

Presumably, "all fields" should have searched *all fields*, including source title, but the *Art Bulletin* record was only retrieved if we changed "all fields" to "source title" for the search term "art*." At that time, our systems librarian discerned through a call to EBSCO that "all fields" actually only searched author, title, subject, and abstract. Though we do not know categorically if "all fields" and "default fields" function identically, a test of the current system produced the same results as last March, thereby confirming the assertion that only the verbiage changed. Therefore, even if the term "default fields" is vague and ill defined, it is less blatantly inaccurate than the "all fields" designation was.

EBSCOhost: In Search of Definitions

Finding a definition of "default fields," however, is not as easy as it should be. Numerous unsuccessful forays into the EBSCOhost help screens (including the FAQs at www.ebscoweb.com and the "Search Tips" and "Help" pages in the advanced search screen) confirm that the interface's help screens contain no information about each database's default search fields. Instead, one must consult each individual database's help screens, and even this effort is often in vain. This method of consulting the help screens within each database is comparable to consulting the "Bluesheets" for each database in Dialog to determine the rules of that particular database, including which fields are being searched in the "Basic Index," and which fields need to be searched through the "Additional Index" strategies.

Looking at the "Searchable Fields" sections in the help screens of specific databases, we found that some list which fields are considered default fields, and some do not. Figure 1 shows a comparison of the listed default fields in three major databases available through EBSCOhost.

Academic Search Elite	ERIC	Humanities Abstracts (H.W. Wilson)
• Not defined	• Title • Author • Subjects (Descriptors/Identifiers) • Institution Name • Core Subjects • Abstract Summary	• Title • Uniform Title • Author • Corporate Author • Source • Abstract • Subject Personal Name • Subject Corporate Name • Subject Uniform Title • Subject Topical • Subject Geographical

Fig. 1. Comparison of Default Fields across Databases

Given the lack of information available on-screen for Academic Search Elite, we called EBSCOhost's Technical Support to seek more information (EBSCO Technical Support). At first, the representative thought that all the fields in the drop-down box would be searched when the user selects "default fields." This would include Accession Numbers and ISSNs; sample searches proved this not to be true. After we brought this to his attention, the Representative told us that the four main fields usually searched are author, title, subject, and abstract, the same four fields that "all fields" searched in the old interface.

When we asked for written documentation of this information, he referred us to the Self Help and FAQ tab at www.ebscoweb.com. Unfortunately, we could find no written documentation at this site to support his assertions. We also consulted the Basic Search Tips, both on the EBSCOhost's Web site and within the database. While both contained helpful information, some information at one site contradicted the other site's information.

For example, the EBSCO Basic Search Help Sheet, available on the company's Web site, indicates that for an "any words" search, "Full text is also searched when available" (EBSCOhost Web Client). However, in the Basic Search screen there is no mention of this functionality in the "Search Tips" that pops up within the database itself. Presumably, not all the help screens were updated when the interface changed recently, a relatively common problem in the documentation of electronic database vendors.

As a result of a second call to EBSCO's customer service department, the Technical Support Representative recognized that EBSCO does need more clarity regarding which fields are "default fields." After acknowledging that most searchers do not delve deeply into help screens, we brainstormed strategies to achieve clarity without increasing the time spent searching. At the end of our conversation, the Representative indicated that he intended to submit the idea we settled on as a possible future enhancement.

Definitions and Databases: What is the Effect on Information Literacy Instruction?

As librarians, we purport to be expert finders of information, and we instruct our students to become sophisticated searchers as well. Effective instruction in any discipline requires the teacher to have a thorough understanding of the structures underlying the content. In our field, a librarian teaching information literacy must have a comprehensive knowledge of database structures so that the instruction is conceptual instead of procedural. Teaching how to use a tool without understanding the underlying structures limits students' ability to transfer knowledge from one interface to another, from one tool to another.

In today's rapidly changing database environment, we cannot merely teach our students which button to click or how to print the full-text. Instead, by understanding the algorithms and teaching how the database is searching, we are providing our students the transferable knowledge that they will need as they use the database tools of the future. Without understanding the fields a particular database is searching, librarians and students alike are not using databases to their potential, but are instead treating databases as expensive search engines.

Concluding Words

In the rush to unveil new interfaces and new tools, database vendors might not make their search algorithms transparent nor make their database documentation uniformly consistent, informative, and accessible. As librarians we have a professional responsibility to understand and monitor the machinations of the electronic databases. We must be alert as we search so that we can determine if we have retrieved the records we believe we should have retrieved. It is our responsibility to insist on high quality search tools from the database vendors. If we blithely search databases without probing into their underlying structures, we cannot expect the database vendors to produce high quality products, nor can we expect our students to become sophisticated searchers.

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Problem-Solving Discussion

Carolyn Johnson

Carolyn Johnson, Information Librarian, selects library materials, coordinates and co-teaches upper level undergraduate and graduate library instruction, provides reference services, and co-develops Web resources for Owens Library at Northwest Missouri State University. She has given state, regional, national, and international presentations and workshops on copyright, the integration of print and Web resources in online learning environments, usability testing and effective Web design, and faculty/librarian partnerships in library instruction.

Abstract

Colleagues will discuss solutions to problems in library institutions, administration, and librarianship that are relevant to libraries serving both brick and click patrons. This discussion session will test out the old saying that "two heads are better than one." Participants are encouraged to bring both their professional problems and their expertise to share.

Building Next Generation Library Web Sites Using Open Source Content Management Software

Paul H. Lewis

Paul H. Lewis is the Government Documents Librarian and Webmaster at the University of South Carolina - Aiken Library. He holds master's degrees in librarianship and public administration from the University of South Carolina in Columbia, SC. He has written numerous articles on technology related topics. His email address is paull@usca.edu.

Abstract

Database driven, content management systems (CMS) offer a number of benefits for library and other Web site developers over traditional Web site design. Some of these benefits include 1) enhanced interactive elements (event calendars, FAQs, polls, site search engines, keyword searchable photo galleries, and others), 2) easy control panel Web site administration, 3) forms based Web site content updating without the need to know hypertext markup language (HTML), 4) compliance with Web usability requirements and XHTML standards, 5) professional, consistent site wide style sheet presentation, and much more. This paper discusses CMS implementation in a library setting using the open source phpWebSite CMS developed at Appalachian State University in Boone, NC.

Introduction

Most library Web sites today consist primarily of a collection of static html Web pages. This is a model that has served libraries very well since the dawn of the Web and one that will probably remain viable for quite some time to come. In the last several years, however, a new Web development model built upon computer scripting languages and databases has emerged. Commonly referred to as content management systems (CMS), this new Web design architecture offers a number of advantages over the static Web page model and, as such, has been widely embraced by the corporate world and other sectors. Should libraries abandon the old tried and true approach and adopt database driven, CMS Web design as many business and other Web sites have done?

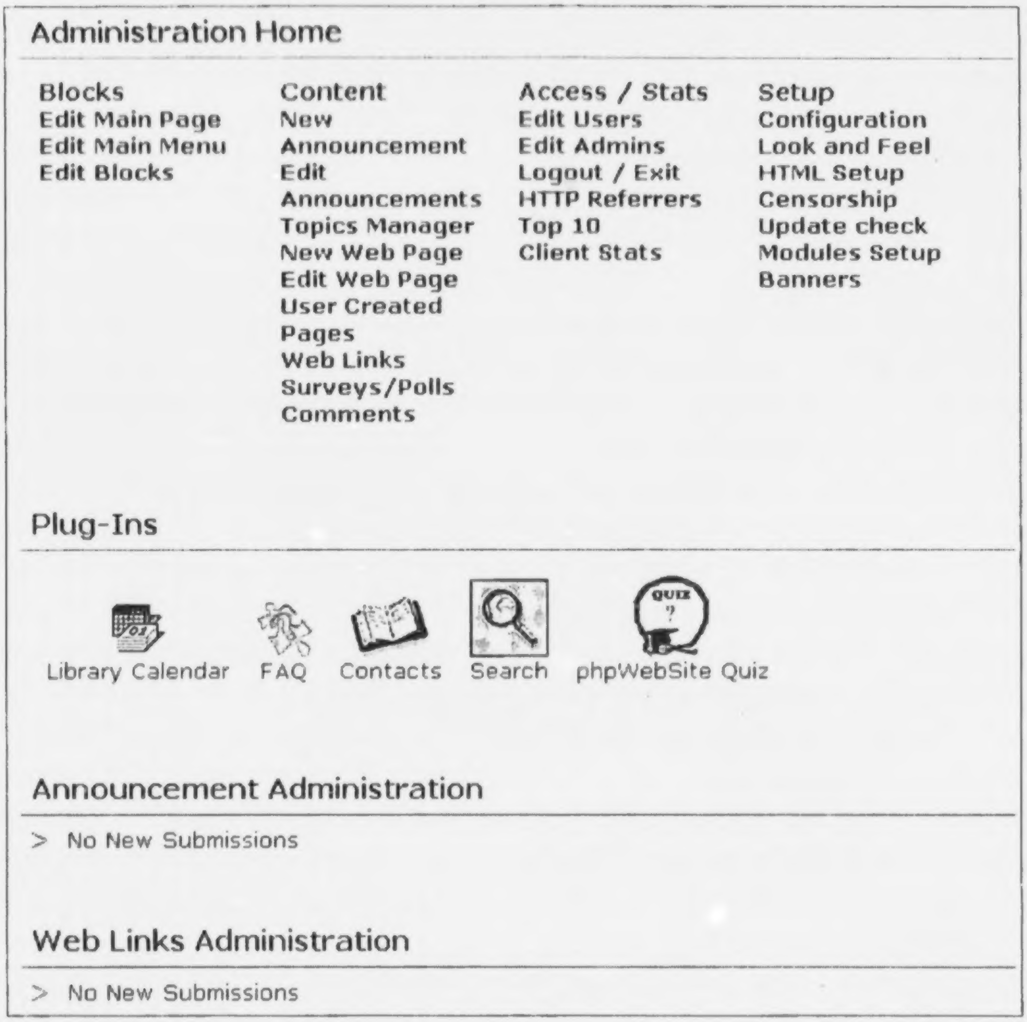
This article examines key features of the new Web design architecture from a librarian's perspective. The author is a Webmaster at the University of South Carolina - Aiken Library and has implemented the phpWebSite .8.2 CMS software in his library's Web site. PhpWebSite is produced by the Web Technology Group at Appalachian State University in Boone, North Carolina. The experience has been generally positive, but there are a number of issues any library considering such a project should consider. In an effort to help libraries decide whether or not this new technology is worthy of consideration for possible adoption, software applications that need to be in place to begin using and building database driven Web sites will be briefly reviewed. Advantages and disadvantages of the new approach will be summarized.

Web Content Management Systems

Definitions of CMS vary but there are several elements almost all share in common. Their purpose is to simplify Web site management by freeing content providers from concerns over site layout design. CMS programs free content providers from the necessity of knowing and using HTML markup language. They employ predefined templates and cascading style sheets (CSS) to maintain consistency of content presentation throughout the Web site. Most CMS packages include a default theme, which includes a style sheet, and graphics used site-wide. A simple change to, for example, a font setting in the style sheet impacts the presentation of documents throughout the Web site. Most CMS packages offer numerous additional themes that may be downloaded from the Web.

In a CMS Web site, content is contained in linked database records instead of HTML pages. Contributors add content via forms on the Web site that interact with and update the database instead of relying on insecure file transfer protocol (FTP) to move new and updated files to the Web site. Content providers are assigned usernames and passwords which enables monitoring and accountability of contributions. Because all content is contained within a database, site wide keyword searching of information is a built-in feature.

Most CMS programs provide a central control panel where all facets of the Web site are managed with point and click simplicity using a Web browser. CMS programs are generally modular in design meaning that additional interactive functions, also known as modules or plug-ins, can be downloaded and easily installed as needed to the core CMS application to extend Web site functions. Plug-ins include such features as interactive calendars, keyword searchable image galleries, online chat applications, interactive quizzes, user log statistical analysis, surveys, discussion forums, Fans, special collection databases, and much, much more. New and more advanced plug-ins are continually being introduced by the CMS developer community. As increasing numbers of libraries consider integrating virtual reference services (e.g. chat applications) via their Web sites, CMS plug-ins could supply an inexpensive solution to accomplish these goals. Of course by using a CMS, these resources can be seamlessly integrated into the Web site's look and feel.



Administration Home

Blocks
Edit Main Page
Edit Main Menu
Edit Blocks

Content
New Announcement
Edit Announcements
Topics Manager
New Web Page
Edit Web Page
User Created Pages
Web Links
Surveys/Polls
Comments

Access / Stats
Edit Users
Edit Admins
Logout / Exit
HTTP Referrers
Top 10
Client Stats

Setup
Configuration
Look and Feel
HTML Setup
Censorship
Update check
Modules Setup
Banners

Plug-Ins

Library Calendar
FAQ
Contacts
Search
phpWebSite Quiz

Announcement Administration

> No New Submissions

Web Links Administration

> No New Submissions

Fig. 1. The phpWebSite .8.2 Content Management System Central Control Panel

Choosing a CMS

Although the technology is relatively young, there are numerous CMS options from which to choose. Microsoft Corporation recently entered into the CMS market and there are many other companies providing CMS software products as well. Unfortunately, licensing fees for many of these commercial products can be very expensive and thus well out of the range for many libraries. Luckily, there are quite a number of excellent, open source CMS packages to choose from that offer all of the functionality of the proprietary products available from Microsoft and its competitors. Under the Free Software Foundation's (GNU - GNU's Not Unix) General Public License, which governs open source software, anyone is free to use these open source CMS packages without cost.

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Detailed information about the many open source CMS products available today can be found at Web sites such as SourceForge (http://www.sourceforge.net), Freshmeat (http://www.freshmeat.net), and Hotscripts (http://www.hotscripts.com). It is a good idea to download and test several of the CMS packages from these sites to gain a clearer understanding of how the software is installed and operated before deciding on a particular package. Special care should be taken when considering an open source CMS since not all of these software development projects are as well supported as others. Some projects have been ongoing for several years and have the backing of a large community of programmers from around the world who actively participate in the CMS project development. Other projects are much newer and lack the feature sets available in other more mature projects. Librarians are well advised to select a CMS that has a well proven development record, a large developer and user community, and that offers a good selection of additional modules beyond the core application. Some of the more well established open source CMS projects are Postnuke, Xoops, Drupal, Geeklog, PHPNuke, Zope, OpenCMS, and phpWebSite, to name just a few.

One particularly attractive feature of the phpWebSite CMS, which other CMS developers are now adopting, is it's dedication to achieving full compliance in it's version 1.0 release with the latest World Wide Web Consortium (W3C) accessibility requirements using XHTML guidelines. To ensure standardization required to make Web sites readable on wide ranging devices such as desktops, laptops, PDAs, cell phones, and text to voice converters, the Web is moving away from HTML markup language to XML (extensible markup language). The XHTML markup language is now the W3C's recommended guideline in this period of transition from HTML to full XML (Bickner). Web sites currently using standard HTML (v.4 or earlier) are in non-compliance with current accessibility guidelines. (Zeldman) This high priority focus on W3C accessibility standards compliance is one all other open source and commercial CMS packages are sure to adopt eventually.

Nuts and Bolts APACHE, PHP and MySQL

Most of the well-established open source CMS packages available today are built on the foundation of the Apache Web server running the PHP scripting language in combination with the MySQL database program. Apache, PHP, and MySQL are all open source software programs and therefore free to use without licensing fees. Apache is the most popular Web server package in use today. It is estimated that over 66% of sites on the World Wide Web use Apache. The scripting language PHP was originally designed to be an easy to use program for building interactive Web sites. MySQL is a powerful relational database management program, which works especially well in combination with PHP and Apache. Most open source CMS packages are actually PHP scripts designed to pull content from tables of data contained in a MySQL database. Thousands of PHP scripts designed to add interactive features to Web sites are available for download from the Web.

Apache, PHP, and MySQL are all cross platform applications, which means that they can be deployed on Web servers running various versions of Microsoft operating systems or on Unix/Linux operating systems. Consequently, it is possible to deploy open source CMS packages on a server running, for example, Windows 2000 or XP. Most popular distributions of the Linux operating system (e.g. Redhat, Mandrake-Linux, etc.) today include these programs. All of the programs are free to download individually from the Web. For Windows users an open source project known as Foxserv (http://www.foxserv.net), provides a prepackaged download containing all three programs. The purpose of this open source project is to provide a single, easily configurable solution for implementing these resources on a Web site.

Simple Implementation

At first glance, the prospect of mastering all of these software programs in order to use CMS might well seem overwhelmingly daunting. The fact is however that one needs to know very little about the inner workings of MySQL and little to nothing about the intricacies of Apache or PHP programming in order to put these resources to work in building a CMS enabled Web site. The first step is to determine if these basic applications are installed on the library Web server. Many library Web sites already run Apache and may well have PHP and MySQL installed already as well. If not, installation on the library Web server is as straightforward as installing any software program.

With Apache, PHP, and MySQL installed, the next step is to run the CMS installation script. The typical CMS installation scenario requires that a simple text configuration file be edited to provide information to the CMS about the Web server domain name as well as a MySQL database name, username, and password. So for this step the Web site administrator will need to learn enough about MySQL to create a database and establish a username and password for the database. Once these requirements are satisfied, the Web site administrator runs a simple CMS setup script using a Web browser. With a couple of mouse clicks the CMS setup script executes and creates all the required MySQL database tables and suddenly an entire fully functioning CMS Web site appears as if by magic.

At this point, the Web administrator logs into the central control panel using a Web browser and then begins to configure various options. For example, the Web administrator might begin by setting up additional administrator accounts for content providers, choosing a theme, or installing various plug-ins such as a calendar, a survey, feedback forms, a chat module, image galleries, etc.

Converting a Library Web Site

Converting even a small to medium size library Web site to CMS is a project that requires planning. Any library considering CMS needs to ensure that staff who provide content are involved in the process from the beginning. The greatest obstacle to implementing a radically different approach to Web site development, in an organization with a well established, fully functioning, traditional Web site already in place, might well be resistance by staff content contributors who are reluctant to change from the approach they long ago grew accustomed to using. Asking folks to part with their favorite html editor can be every bit as much of an affront as asking them to switch word processors. They may need to be convinced of the value of such a change. A consensus that this is a project worth undertaking is absolutely essential.

One way to ease the transition is to build the site on a test Web server prior to going "live". This gives the Web administrator an opportunity to become familiar with the many CMS program features and options and it provides staff contributors training in the process of adding and updating content. The software can be set up on any available PC in standalone mode or preferably one connected to the library LAN. Using this approach it's possible to convert the entire site prior to replacing the old one because the MySQL database, once created, can easily be backed up and transferred to another computer. There are a host of open source Web browser based and graphical user interface (GUI) tools for managing database archiving.

Conclusion

Writing in an essay titled "The End of Homemade Websites" in October 2001, renowned Web usability guru Jacob Neilsen advised companies interested in developing e-commerce sites to stop trying to reinvent the wheel by developing sites on their own. (Neilsen) He suggested that doing so is like building a new store by baking your own bricks one by one and mining your own copper for wiring. According to Neilsen, this approach is counterproductive, costly, and quite often leads to sites that are poorly developed from a usability standpoint. His recommendation to businesses is that they should contract out this task to professional e-commerce Web services providers. Of course, library Web sites are a breed apart from business e-commerce sites. Still, by deploying CMS, libraries to a large degree would be "farming out" Web site architectural design and usability issues to outside professionals, the CMS developers.

It is possible to incorporate interactive elements into a traditional Web site without making the leap to using CMS. It's possible as well to rework all the Web pages on an established site to include style sheet controls without CMS. Finally, it's possible to rework all pages across a site to be compliant with Web usability standards and the new XHTML guidelines without CMS. The investment of time and energy required to accomplish any one of these worthwhile goals, however, is enormous compared with the effort involved in implementing a CMS. The benefits offered by CMS are impressive, especially for a technology that is only a few years old. Will all Web sites be built this way in five years? It's difficult to predict. As the technology continues to mature, however, it's a fairly safe bet that most new sites will be. Thanks to the vibrancy and generosity of the open source software community, libraries have a real opportunity to put this technology to work.

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It's All in How You Play the Game: Applying Educational Games to Library Instruction

Lori Mardis, Connie Ury, Vicki Wainscott, and Frank Baudino

Lori Mardis is an Information Librarian at Owens Library, Northwest Missouri State University. She co-coordinates the Fundamentals of Oral Communication curriculum, is Co-Coordinator of Library Distance Education and Online Learning, teaches general education and upper level undergraduate library instruction, provides reference services, participates in collection development, and develops Web resources. She has given regional presentations on developing online user tutorials and Generation X learning styles and online instruction. At her previous position she was the Webmaster for the university and the library.

Connie Ury is the Library Outreach Coordinator at Owens Library, Northwest Missouri State University, where she has worked since 1984. She coordinates library instruction, with primary responsibility for general education and 100 level classes. Connie has presented widely at national, regional, and state conferences. She has published scholarly articles in "The Reference Librarian" and "Research Strategies," as well as other periodicals (including "Library Mosaics") and conference proceedings. Connie provides reference service and research consultations at Owens Library. She also interacts with students via online courseware teaching research skills and providing online reference service.

Vicki Wainscott is Head Librarian for Access Services at Owens Library, Northwest Missouri State University. In this position she coordinates circulation, reserves, interlibrary loan, and the teaching resources areas. She also is a member of the Information Services Team and the Leadership Team at Owens Library. She co-coordinates English 112, co-coordinates Library Distance Education and Online Learning, teaches general education and upper level undergraduate library instruction, provides reference services, and develops Web resources. She has presented at ACRL on library instruction within the general education curriculum. At her previous positions she has been Head of Reference, Head of Access Services, Reference/Interlibrary Loan Librarian, and Cataloging Librarian.

Frank Baudino is the Head Librarian for Information Services at Owens Library, Northwest Missouri State University. He leads an active, dynamic team of instruction and reference librarians who develop and maintain an instructional program, which reached more 3,500 students during 173 sessions during the 2001-2002 academic year. Frank has worked at Owens Library for eight years, during which time he has been active in developing a new model of reference service delivery incorporating one-stop shopping and expanding the instruction program to incorporate four general education access points, as well as upper level instruction in a wide variety of environments. Frank has presented at national, regional, and state conferences, publishing papers in several conference proceedings. Previously, Frank was the Reference Librarian at Lake Erie College and the Head of Reference at Southern Arkansas University.

Abstract

This paper discusses and analyzes modes of learning usually preferred by a variety of generations, including Baby Boomers, Generation X, and Generation Y. Generational differences in learning styles and engagement preferences are explored. A rationale for using games to engage student interest is presented, along with pedagogies for structuring interactive learning activities. A justification for capturing the attention of students via gaming is incorporated. Sample library instruction materials and tutorials, incorporating gaming techniques and interactivity, are described and analyzed. Sources for accessing customizable content for library research instruction materials are highlighted and modes constructing learning games are explained. A wide variety of sample games are drawn from a cross section of academic library Web sites. Readers are encouraged to employ high level programming software, such as Flash, to create appealing and engaging learning objects. URLs of specific examples are listed, along with descriptions of the content available at each site.

Introduction

Library instructors are continually looking for methods to engage students in the learning process. "In the past decade, we have seen a focus on teaching techniques in college classrooms, a movement that emphasizes active learning, the value of out-of-class learning, and the importance of assessment on college campuses" (Stage). Typical library instructional formats involve lecture, demonstration, hands-on practice, and tours. As library instruction delves into the online instructional arena, threaded discussions, chat, virtual tours/tutorials, and digitized narrated lectures are also becoming central to instructional paradigms. Academic librarians face many challenges as they try to serve both a "Brick and Click" audience. At the forefront of these challenges, is the need to develop instructional strategies that meet the needs of a diverse population of baby boomers, Generation X, and Y learners with a variety of learning styles.

Considerations

Before developing learning strategies, it is important to note the instructional considerations that need to be taken into account for each population group. Baby boomers, born between 1943-1960, require communication through interaction, networking, and teamwork. They can be motivated to achieve if they believe that the instructional content will help them succeed. They also like learning through situations in which important knowledge is highlighted and options for more detailed information are available. Generation X, born between 1961-1979, enjoy self-paced learning during a self-determined time frame. Generation Xers enjoy highly graphical and visual instructional mediums. This group can be motivated to achieve if the information is perceived as fun and enjoyable. Generation Y (a.k.a. Generation Next, Net Generation, N-Gen, Millennium Generation), born between 1980-2000, are similar to Generation X in that learning needs to be fun, highly active, interactive, and contain graphical content. However, unlike Generation X, written information should also be included (Coates 18-30).

How is it possible to incorporate instructional components that meet all of these user population needs? One common thread to the learning process throughout the generation groups is the need for active learning. Having students present what they have learned to their peers during hands-on lab searching practice is a traditional method used to involve students in the learning process. However, no matter how well researched or well communicated, students' eyes begin to glaze during the process of listening to presentation after presentation. Students need to do more than listen; they need to read, write, discuss, and problem solve. Why not involve the entire class through active learning games facilitated through the Web? According to a report conducted by the Harris Poll for Northwestern Mutual, of the 2,001 students surveyed, 84% of men and 77% of women used the Internet often as a news and information source. The 2001 college class was "[. . .] 'virtually 100% connected' to the Internet [. . .] Internet usage among the graduating class has nearly doubled since they were freshmen, from six hours a week to 11" (Web-Connected). Games, provided through the medium in which college students are already investing time, are a great strategy for highlighting important information while providing a path to more detailed information and fostering active learning through problem solving activities.

Why Use Games as a Supplement to Traditional Forms of Instruction?

"The first thing to understand about games, and why people like them, is that they are structured entertainment experiences" (Orbanes, 52). This structured format can help an instructor focus on a concept, introduce or conclude a lecture, activate prior knowledge, facilitate discussion, and verify understanding. Whether teaching in a classroom setting or online, it is difficult to continually focus students' attention on a learning task. Comprehensive research requires planning and effort to prepare thorough search strategies. What motivates students to learn about the research process? The goal of completing a paper is a strong motivator, but often hit-or-miss research tactics are utilized to achieve this gain. Wouldn't it be great if the process used to teach research skills was rewarding and motivating ... especially if the teacher was not required to be on the sidelines cheering the student on towards the completion of a project?
According to Bisson and Luckner, who discussed incorporating fun and adventure into education:

> Enjoyment and fun as part of the learning process are important when learning new tools, since the learner is relaxed and motivated and therefore more willing to learn. … The role that fun plays with regard to intrinsic motivation in education is twofold. First, intrinsic motivation promotes the desire for recurrence of the experience…Secondly, fun can motivate learners to engage themselves in activities with which they have little or no previous experience" (qtd. in Prensky).

Game Formats

Simulation

To teach search strategies, Owens Library instructors had previously relied upon discussion, paired with demonstration, followed by hands-on computer practice to insure that the concepts were correctly applied. In Fall 2002, the Missouri State Library awarded Owens Library the "LSTA Bring in an Expert" grant. This grant allowed the library to hire Natel Web Design to create interactive games. The first game that was created involved a Flash game in which a student would need to simulate the steps that would be taken to create a successful search strategy. This game is located at http://www.nwmissouri.edu/library/courses/research/search.htm. "Simulations facilitate the development of students' problem-solving skills and place students in the role of decision maker. In conjunction with higher level thinking skill development, simulations expose students to information that may expand their knowledge regarding the content area" (Berson). To create a problem-solving environment within the Flash game, a research question is displayed on the screen (example: What qualities of leadership would make Colin Powell a good president?) A clipboard contains post-it notes with keywords, truncation symbols, parenthesis, and Boolean operators (example: Colin, Powell, president, leader, leadership, *, (,), and, or, not, integrity, honesty, judgment, quality, qualit*). The student critically analyzes, selects, and moves the sticky notes to the bulletin board and constructs a search strategy that will result in the best results for the question (example: Colin Powell and (integrity or honesty or judgment or leadership)). To add to the competitive atmosphere, some of the notes will not be used. When the student has finished creating the search strategy, he/she can click on an answer button. The graphic interface, active, and interactive nature of the simulation maximizes enjoyment for Generation X and Y. The answer highlights the appropriate search, but also provides more detailed information about the chosen search options as desired by Baby Boomer learners (example: By combining synonyms for desirable presidential traits with OR and enclosing them in parentheses, several ideas can be merged into one search. The word president was omitted from the search to avoid retrieving results about Colin Powell and the current president rather than articles about Colin Powell as a president).

Another simulation game is located within the Government of South Australia's LEARN Information Literacy Initiative (LILI) Tutorial at http://www.tafe.sa.edu.au/lili/module5/page11.html. This game simulates locating a book's call number on the shelf. The student moves his/her mouse over the spine labels of the books to zoom in on call numbers. After the call numbers have been studied, the student clicks on the appropriate space where he/she believes the book should be placed. If the player selects the wrong location, a note is displayed indicating that the wrong location has been chosen, an explanation of why the answer is incorrect, and encouragement to try again. When the correct location is chosen, a congratulatory message appears. This game promotes critical thinking because it involves problem solving and higher level thinking in a realistic situation.

Trivia

Trivia games contain several essential components of good game design. The activity has clear goals (e.g. correct answer equals advancement to the next question, points, or prizes), the user receives feedback on whether the goals are being reached, the individual is in control of the game, anxiety and self-consciousness regarding incorrect answers are diminished when playing alone, and time spent playing the game is not noticed (Rieber 48). The University of Wisconsin-Whitewater has a variety of gaming ideas and templates available at http://facstaff.uww.edu/jonesd/games/. These games are built in a PowerPoint format; therefore they can be easily created or changed within a short time span. Several of the game formats (Jeopardy, Who Wants To Be A…, Correct Order, What Am I?) are trivia based. These games are a fun way to test fact recall. In a library setting, these games can quiz students on the difference between magazines and journals, WWW search engine vs. periodical database vs. library catalog, primary vs. secondary sources, etc.

Another trivia based game can be found at the University of Minnesota, Crookston, Web site located at http://webhome.crk.umn.edu/~dlim/itc/. At this address, select "Flash Games" in the top toolbar for a list of existing Millionaire, Jeopardy, and Clue games based on Flash templates created by Dr. Lim. An example Library Trivia game that Owens Library faculty provided content for can be found at http://146.57.173.241/scripts-bin/asp-bin/ITCInteractiveGames/InterGames1/KnowMill.asp?GameID=lmardis_000. The Millionaire Game can be played by an individual or as a class. The benefits of playing the game as a class are an improvement in teamwork and collaboration. Networking is also a learning strategy required by Baby Boomers. If played as a class, a team could either answer the question, phone a friend (a.k.a. ask the teacher), poll the audience (a.k.a. classmates), or select 50/50—removing two incorrect answers. By playing this game as a class, the instructor can observe the class responding to a question and study how previously learned material is applied. Incorrect answers can give the instructor a chance to improve on future lectures, as well as correct previous misinterpretations.

The instructors at Owens Library decided to create a customized game show on topics related to search strategies and magazine vs. journal assessment where an explanation of why responses were incorrect could appear (see fig. 1). Lori Mardis and Frank Baudino provided content to Natel Web Design under the "LSTA Bring in an Expert" grant to create a trivia game with a game show background. This game is located at http://www.nwmissouri.edu/library/courses/research/gameshow.htm. The show host explains the rules of the game. Next, the player tries to answer a series of questions. Whether the players select a right or wrong answer, an explanation of the concept appears to foster a deeper understanding of the material. A score keeps track of correct responses to strengthen the competition. Playing games in this private setting, rather than in front of a class or peers, who might laugh at the wrong answers, provides a more relaxed atmosphere. An added perk for completing the game successfully is a prize at the end (see fig. 2).

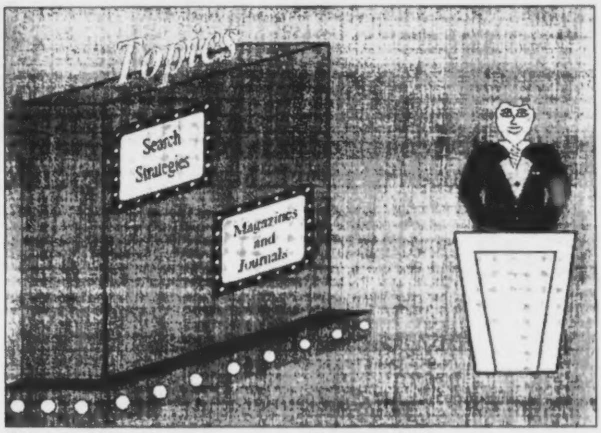
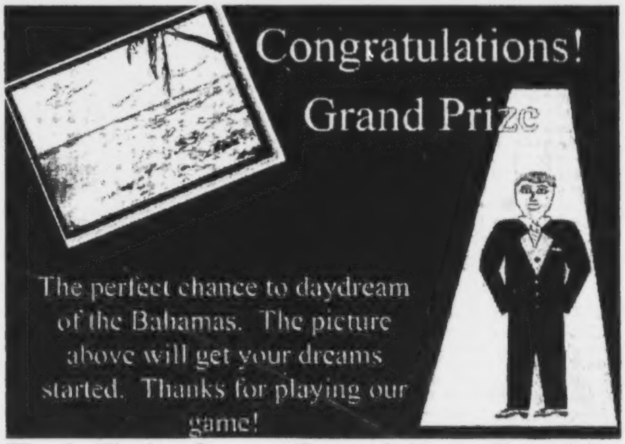


Fig. 1. Opening Screen–Owens Library Tutorial



The perfect chance to daydream of the Bahamas. The picture above will get your dreams started. Thanks for playing our game!

Fig. 2. Closing Screen–Owens Library Tutorial

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There are also commercially available software packages that allow the instructor to customize content. One such package is "Al Morale's Game Show Presenter" at http://www.almorale.com/. This game show contains witty quips when correct or incorrect responses are selected (e.g. "Lets see you pocket some points", "Is that your final incorrect answer?", "I'm knockin' on your noggin with this one"). Key features to customize the game show include:

- creating a unique title;
- choosing a flashy set and sound effects;
- placing instructors' names in the credits of the show;
- using a flexible timer on quiz questions
- and incorporating tools to personalize the comic relief in the show, etc.

Automatic scoring and possible scheduled "breaks" in the show are incorporated, allowing the presenter to make other announcements, discuss questions/answers, or switch to a PowerPoint presentation. This game is successful because it provides immediate feedback on the selected answer making it a helpful learning opportunity. This software costs approximately $79.00 and can be loaded on the presenter's computer.

Application Games

Application games are experiential because they allow the user to try things at their own pace, trying and retrying different answers until a successful outcome is reached. The University of Washington Information Literacy Learning 2001 Tutorial contains a module on selecting key words and concepts located at http://www.lib.washington.edu/uwill/research101/topic06.htm. The module asks the reader to identify main concepts in the research question by clicking on all of the essential key words in the topic sentence with the mouse. After the reader selects the words and clicks on the submit button, the main concepts are displayed with a rationale justifying the choice. Another game created by the University of Washington in the Information Literacy 2001 Tutorial is located at http://www.lib.washington.edu/uwill/research101/basic03.htm. The reader can first select the "Info" link and learn why primary or secondary sources depend upon the research question. Next, the reader can select the "Model" link to view appropriate primary sources for suggested topics like "Literary Portrayals of Internet Security Issues." Finally, the reader can click on the "Practice" link and drag the appropriate primary source for the research question into a book bag. While both of these games are short, they require the user to apply previous facts and strategies detailed earlier in the tutorial.

Another game that applies knowledge learned in a previous section can be found in the University of Texas System Digital Library's TILT tutorial, Selecting [sources] module called TILTOMETER located at http://tilt.lib.utsystem.edu/module1/tiltometer_instructions.htm. The TILTOMETER assists the user in identifying which sources are the most helpful for answering research needs. Seven questions are displayed in which the player needs to identify the best source to locate information that will answer the question. For example, the player needs to find the best place to locate information to write a research paper about censorship and the Internet. Possible choices include journals, magazines, newspapers, books, encyclopedias, the Web, e-mail, periodical indexes, and the library catalog. The player cannot advance to the next question until a correct answer is selected.

Language Games

Tired of students not paying attention to a lecture or demonstration? Buzzword Bingo, created by the University of Wisconsin-Whitewater, is at http://facstaff.uww.edu/jonesd/games/. It provides a template that can be used to assist in recollection and identification of key words. Words and phrases appear on each square in a playing card. As the instructor mentions one of the words on the playing card during a lecture, the player places an "X" or a piece of candy on that square. When all of the squares have been checked, the student shouts "Buzzword Bingo!" This strategy helps the student to remember key points, as well as the added bonus of remaining attentive throughout the entire lecture.

The University of Texas System Digital Library has created a quick-paced vocabulary review game in the Selecting [sources] module within the TILT tutorial. In Think Fast, located at http://tilt.lib.utsystem.edu/module1/game.htm, words and phrases appear on the screen (call numbers, e-zines, part of the Internet, stacks, organized, search engines) that describes either the Web or the Library. The player must quickly click on the answer that best fits the description on the screen.

Conclusion

Gaming is an instructional strategy that provides interactivity and hand-on learning activities at a pace that engages a wide variety of generational learning styles. This type of learning focuses on active learning and satisfies the need of many traditionally aged students to experience instruction in a self-paced format and to personally interact with learning content. The examples described and cited in the above paragraphs provide models for instructional design and opportunities for quick and easy incorporation of active learning into existing instructional programs. Library instructors and students receiving library instruction will approach the learning of research models as engaged learners when their learning styles are adequately addressed via structured activities inviting personal participation.

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QuestionPoint, Collaborative Reference Service

Judy Pask and Deb Ehrstein

Judy Pask is Librarian/Trainer for Missouri Library Network Corporation. Recent workshops she has taught include OCLC FirstSearch: Using the Administrative Module, Using OCLC Pathfinders, and Exploring Virtual Reference Service. Prior to joining the MLNC staff in January 2002 she was head of the Undergraduate Library at Purdue University and coordinator of user instruction.

Deb Ehrstein is the Internet Trainer/Librarian at Missouri Library Network Corporation where she teaches workshops on Internet topics and provides computer and telephone support to OCLC member libraries. Before joining the staff at MLNC, Deb worked as a reference librarian for the Rochester Public Library in Rochester, New York.

Abstract

The changing information environment has challenged reference librarians to develop new services to meet their remote users' needs online. In a world where so many students have turned to the Web for fast, "good enough" answers, how can libraries respond? QuestionPoint, a collaborative reference service developed by OCLC and the Library of Congress is one solution. QuestionPoint enables libraries to:

- Add simple links from any Web page to support a locally branded and customizable question-asking service including: Web-based submission forms, e-mail-based interaction, and live chat for patrons. Also provides usage statistics and transcripts.
- Respond to, track and manage reference questions from patrons via the Web
- Refer unanswered questions to other libraries in the library's cooperative as needed based on availability and expertise
- Refer still-unanswered questions to expert resources through a global Web-based network in which an automated "request manager" routes questions from one library to another, based on metadata about the question and predefined profiles of the collection, subject and staff strengths of members of the network, etc.
- Search a global knowledge base of previously asked and answered reference questions.

Two Missouri Library Network Corp. trainers will demonstrate QuestionPoint using two computers and projectors to show both patron and librarian views. With the addition of the Convey On Demand component, librarians can use advanced internet communication features to share and collaborate on desktop content, share proprietary database information, text-chat, and see and talk over the Internet.

Designing Interactive Online Tutorials

Jennifer Quinlan and John Small

Jennifer Quinlan is a reference librarian at Linda Hall Library of Science, Engineering, and Technology. She also coordinates the Linda Hall Library's Education Program. She previously worked at Iowa State University as the Online Instructional Support Librarian. Jennifer received her MLS from the University of Illinois at Urbana-Champaign and a BA and a MA in English from Iowa State University.

John Small is Assistant Professor of Library Services and the Electronic Resources Librarian at The Kirkpatrick Library, Central Missouri State University. He has been active in technology issues in libraries since coming to CMSU in 1993. John has an MALIS and is ABD in Information Systems.

Abstract

Online tutorials are becoming increasingly important as libraries move their holdings and access points from traditional place bound locations to the Internet, offering remote access to their students. Online tutorials, however, often miss out on an important option available to the designer, that of interactivity.

A well-designed library tutorial that includes interactive elements allows the user to engage in active learning and provides reinforcement of the lessons. Of course, it is far easier to design an interactive tutorial from the beginning of the process; it is far harder to attempt to retrofit interactivity into an existing training module.

This paper covers planning for site design, planning for interactivity within the structures of the design, and the steps involved in how to determine where the interactivity belongs. Information Architecture processes, as regarding interactive online tutorials are discussed, with particular emphasis on managing the content of the interactive elements.

Introduction

Online tutorials are an important instructional component libraries provide to their users. These tutorials become increasing necessary as libraries move their holdings and access points from traditional place bound locations to the Internet, offering remote access to their users. As Harley, Greger, and Knobloch state, "Perhaps the greatest challenge facing academic librarians is providing contexts in which students can learn to think critically about their course assignments and their daily lives" (26). An online tutorial that utilizes interactivity can provide these contexts and engage students in critical thinking.

Interactivity

How is interactivity defined? What does it mean in relation to online tutorials? In the simplest terms, interactivity is engagement by the learner in learning (Northrup 31). Types of interaction include learner and instructional content interaction, learner and instructor interaction, and learner and other learner interaction (Moore 1). Learner and instructional content interaction is the central component of education. As Moore states, "Without it there cannot be education, since it is the process of intellectually interacting with content that results in changes in the learner's understanding, the learner's perspective, or the cognitive structures of the learner's mind" (2).

To be truly interactive, a user must be doing more than moving from one hyperlinked Web page to the next. Navigation is not interactivity. Dewald notes, "Interactivity not merely requires the learner to push buttons; it engages the learner with the material in order to practice skills" (26). This idea is repeated by Liaw and Huang, "In a WBI (Web Based Instruction) system, interaction is not selecting simple menu items or clicking icons on the computer screen. Instead, the interaction should involve complex activities by learners, such as engaging and reflecting, annotating, questioning, answering, pacing, elaborating, discussing, inquiring, problem-solving, linking, constructing, analyzing, evaluating, and synthesizing" (43). Following a series of linked Web pages is much like passively listening to a lecture without the ability to raise one's hand and engage the instructor. By creating interactive learning environments, the learner is mentally engaged and involved with the subject matter, the instructor, and other learners. "Interactivity makes the difference between a program that simply presents information and one that actually trains the user" (Hall 4). Engaging a student with the instructional content is necessary for active learning to occur. As Dewald states, "Interactivity is the online hallmark of active learning" (30).

Information Architecture

"Interaction doesn't just happen. It must be designed intentionally into the Web-based course. Oftentimes, when Web-based instruction fails, it is because it was not designed well" (Northrup 32). Information Architecture (IA) is a process the designer or team can use to create a blueprint of what a tutorial will look like, and, more important, how it will feel, as well as how the informational elements, transactions and interactive elements will occur. IA is a set of tools that can be used to make Web and tutorial building both easier and more effective.

The major idea is to make the process of information finding easier and more apparent to the learner. One wouldn't consider building even a simple house without a set of plans; IA allows the tutorial builder the same type of planning and design process.

It is important to note, the colors of a tutorial, the overall layout of the pages, the embellishments and graphic enhancements are the last element that IA deals with, and are, in many ways, mere window dressing. IA is about the process of laying out the informational elements in logical, consistent ways that the learner can find and use.

The first step of the process is to determine the goals of the tutorial itself. This step is often overlooked in the process, but it is of vital importance for the focus of the tutorial. If the tutorial doesn't have a specifically defined purpose, it's not too early to begin. Define the short-term goals of the tutorial. It may also be reasonable to add long-term goals at this point.

Once a list of goals is created, rank them by importance. Begin the process of grouping the goals into sections, based on the logical connections between the types of information.

The next phase is also overlooked on a regular basis. Defining the audience can be a very difficult exercise, but is of great import when beginning the process of designing a tutorial's presence. Many tutorials will serve a large variety of users; some are very strictly limited to a tightly defined audience. This does not mean defining the audience by the type and ability of the equipment they'll have available, though that can be a part of the process. What we seek in this step is a detailed listing of the primary and secondary audiences for a tutorial, those who the tutorial will reach. It is also illustrative at this point to try and determine why they would be looking at the tutorial in the first place. In some cases, such as online courses, they'll have to use the tutorial. In others, the choice to use the tutorial may be one choice out of many because there are a number of other sites dedicated to the same topic.

As part of the process of creating an audience listing, look at a sample of other tutorials that have the same basic purpose. This is checking out the competition to determine what kinds of things are being done, how the tutorials are grouped and what the navigational elements might be. If there are good ideas in these tutorials, make a note of them for reuse in a unique way in the new tutorial. If there are questionable elements, make a note of those too.

Content and Information Architecture

Instructional content is the reason for a tutorial. Begin to define content elements and start collecting them immediately. Some will be simple, e-mail addresses, phone numbers, etc. Others will be far more complicated, such as listings of online examination questions, and wholly new elements that will have to be created specifically for the new tutorial.

While working on collecting the content, begin to determine what functions the new content will have to accommodate. Will the tutorial need forms, polls, or Web-based e-mail connectivity? This is also the section where interactive elements must be defined, based on the type of transactional elements required. Will the tutorial require personalization so that the learner has a specific set of tools available upon login? Will the tutorial require elements such as interactive testing areas, and if so, how will those transactions be accomplished? Once the types of elements the tutorial will need have been determined, begin the process of choosing how the interaction can be handled and which sets of tools might be required to accomplish the purpose the tutorial will require. This is another area where many designers make mistakes, attempting only interactive or transactional elements they already know, or have access to. Determine what is to be accomplished, then set out to determine how to accomplish this activity.

Content grouping is the most important element of the IA process, and comes next in the order. It is also one of the most important areas of the IA process. In this stage, content elements are organized into logical groupings, based on either a connection among the elements, or on a linear flow that the learner might need to follow. Linear formats are particularly difficult within a Web-based tutorial, for they require very careful attention to the logical flow the learner must follow. The learner must be guided through material, and then led to the interactive elements when they have gained enough information to make use of them. Care must be taken, in a hypertext environment, to make the path through the information clear, or the leaner could become lost or disoriented.

Once the content grouping activity has begun, it is both useful and illustrative to have a number of different people [as large and diverse a group as may be practicable] group the elements independently. There are a large number of possible ways tutorials can be arranged, and all of them will have their own internal logic.

Global navigation schemes allow authors to design the process of getting from one location to another within the framework of the tutorial. They allow the user to move from one major content grouping to another with a minimum of difficulty. In a well-designed tutorial, these major groupings will be obvious to the learner, even if they never go from one area to another. Consider for a moment the user interface of Yahoo! When moving from one section to another, the user always knows what the sub-site will look like, how it will work, and how to move around from one location to another. This is also the goal of a well-constructed tutorial.

It is typical to use the major content grouping as the major section headings. These, in turn, allow the designer to begin the process of examining a global navigational structure. Whenever possible, try to limit the number of major content groupings to six or so, though four is often the best possible number, as long as the designer is not forcing things into sections to accomplish this number. The tutorial content elements drive the navigation system. The navigation system is, in turn, driven by the content, which is, again, the primary reason for the tutorial in the first place.

Conclusion

Interaction is a necessary element of an online tutorial. It allows learners to engage with the instructional material, and reinforces key points throughout the process. "To help make the library a context for knowledge integration, provide students with more context, more general principles, and less information. The context in which information is presented can convey more than information alone, providing meaning and value" (Harley, Dreger, and Knobloch 31). When designing interactive online tutorials, Information Architecture offers a thoughtful process for design and development. Providing interactive online tutorials is a far more complicated undertaking than creating simple Web guides and bibliographies, but the resulting engagement of our learners is worth the effort.

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Exploring the Challenges of Virtual Reference in an Academic Library

Marcia Stockham and Elizabeth Turtle

Elizabeth (Beth) Turtle is an assistant professor and science librarian at Hale Library, Kansas State University. Prior to joining KSU in 1998, she was the senior librarian at DPRA, Incorporated, an environmental consulting firm. She received her MLS in Library Science and Information Management from Emporia State University. She currently serves on task forces for distance education library services and a statewide virtual reference project.

Marcia Stockham is an assistant professor and education librarian at Kansas State University Hale Library. She received her MLS in Library Science from the University of Missouri-Columbia and served as the System Administrator and Reference Librarian at Columbia College in Columbia, Missouri before joining KSU in 2001. She currently serves on task forces for distance education library services and a statewide virtual reference project.

Abstract

A pilot project offering real-time virtual (chat) reference services was implemented at Kansas State University Libraries using funds received from a Library Services and Technology Act (LSTA) grant. The four-month project was implemented on February 15, 2002 and was offered for two hours a day, Monday through Friday, staffed with five volunteer librarians. Since virtual reference represents a new tool for providing quality reference services, the goal of the project was to explore the challenges involved in offering such a service in an academic library. Pilot project issues included software selection, policies, staffing and training, publicity and marketing, data collection and analysis, and user/staff satisfaction. The primary recommendation, based on lessons learned from the project assessment, is that chat reference is a valuable service for K-State patrons, but would best be instituted through a collaborative effort of libraries.

Introduction

Virtual or online reference service (an extension of traditional desk-based reference) is the provision of personal assistance to remote users via Web-based interactive software. The user's information needs are addressed at the time of need by interacting with a librarian through a "chat" component of a Web-based program (Alliance Library Service).

A pilot project offering real-time virtual (chat) reference service was implemented at Kansas State University Libraries using funds received from a Library Services and Technology Act (LSTA) grant. Planning for the project began in July 2001 and involved using a detailed project management methodology (PMM). The pilot project was implemented on February 15, 2002 and concluded four months later. Five librarians volunteered to staff the service that was available two hours a day, Monday through Friday.

The primary goals of the project were to learn more about chat technology, to explore it as an enhancement to traditional reference services, and to assess whether there is an ongoing need for this type of service. Objectives included: becoming knowledgeable and comfortable with chat reference; determining the software best suited for the pilot; recruiting staff who had a strong interest in the project; training; determining hours and days of week of the service; creating and implementing Web pages for the service; effectively marketing the service; developing policies such as a privacy statement; maintaining statistics; and completing a final assessment of the project.

Project Administration

The two co-chairs of the project were responsible for all aspects of planning and implementation. Administrative duties included selecting software, recruiting and training staff, negotiating and communicating with the software vendor, scheduling staff hours, designing Web pages, marketing and publicizing the service, preparing a privacy statement and determining other policies.

Software Selection

Preliminary software information was obtained from various online sources and vendors' Web sites (Blank; McKiernan). Required features for the project included: inexpensive start-up, maintenance, and training costs; software must reside on the vendor's server to eliminate hardware requirements and decrease technical/IT issues; quick response time; the ability to push Web pages; no special download or installation for the user; compatibility with all computers and browsers; archived transcripts of sessions; the ability to generate good statistics and reports; and good technical support from the vendor. LiveAssistance® was chosen because it met the criteria and was reasonably priced (LiveAssistance).

Staffing and Training

Three volunteer librarians (all subject specialists) and the two co-chairs staffed the virtual reference desk. Because of the minimal staffing, the service was only offered two hours per day. The decision to offer the service from 2:00 to 4:00 p.m. on Monday, Wednesday, and Thursday and from 10:00 a.m. to noon Tuesday and Friday was supported by reports in the literature (Foley 42; Helman 87; Sloan).

A vendor representative conducted initial training through telephone conference calls and online demonstrations. The learning curve was not steep, but becoming proficient at using the software required practice. Each of the staff members worked from his or her desktop computer while on duty to minimize distractions for the staff and confusion for the patrons.

Policies

There were no specific written policies, but the virtual reference desk staff used the same guidelines as those used for e-mail reference regarding eligible patrons and appropriate questions. A privacy statement approved by the University attorney and library administration was added to the "Ask a Librarian" Web page. Because of privacy concerns, arrangements were made with the software company to strip personal information from the transcripts at regular intervals. At the end of the project, data from the transcripts was downloaded to a local machine for evaluation and the vendor deleted the account.

Publicity and Marketing

An "Ask a Librarian" icon at the center of the libraries' home page linked to a page explaining three types of reference (phone, e-mail and chat). The page included hours of operation, FAQ's, and links to the other services. Once the new page went live, the service was advertised through a notice to all library employees, articles in library and campus newsletters, a notice to all distance education students, and word of mouth. A demonstration booth was included at a campus-wide Technology Expo.

Data Collection

Most data were collected using pre-packaged reports supplied by the software. Information was gathered from performance statistics, transcripts, and optional exit surveys. Questions on the customized exit survey are shown below (see fig. 1): Staff satisfaction was evaluated using a short survey and comments (see fig. 2).

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1. Did you get the information you needed?
2. Would you use this service again?
3. How did you learn about this service?
4. Were the hours of this service convenient for you?
5. Please rate our service. (Excellent, Good, Fair, Poor)
6. Please enter your comments.

Fig. 1. Customized Exit Survey

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1. What did you like most/least about using chat reference?
2. At the end of the project were you comfortable with using chat technology?
3. What skills do you feel are important as an operator?
4. Was the training adequate?
5. Would you recommend chat reference as another tool fro serving patrons? Is it a priority?
6. Do you feel you were able to provide adequate answers to the reference questions using this method?
7. Would you consider being part of a virtual reference project again—such as a collaborative project?
8. What were your general impressions of the pilot project?

Fig. 2. Staff Satisfaction Survey

Data Analysis

The total number of chat sessions during the pilot project was 149. Seventy-one of the chats were answered, and 78 were not. These numbers include all practice and training chats. The reasons for unanswered chats include disconnections and aborted attempts, but the overwhelming reason was that questions came in when no operators (librarians) were available. Even though the hours for the service were posted on the login page, users tried to ask questions at other times as well. In fact, the majority of calls came in outside the posted service hours. The average chat time was

2 minutes 39 seconds, and the average queue time was 29 seconds. Using the transcripts, all training and test questions were removed to arrive at the "true" chat reference transactions shown in Table 1.

Table 1
Types of Questions Asked by Availability of Operator

Type of Question	Reference	Library	Technical Support	Invalid or "crank"
Operator answered	24	11	1	0
Operator not on duty	48	11	0	7

Examples of reference questions logged are:

- How would I research Amarillo Mesquite Grill's history?
- Where would I find online information regarding the background, history and financial statements for a business?
- How do you cite online newspaper and magazine articles?
- I would like to find old newspaper articles for a class project.
- I need help finding a peer-reviewed journal about early childhood development.
- How do I find a specific magazine article?
- Where can I get a copy of "Raw Material Economies Among Hunter-Gatherers" by A.M. White in 1991?

Twenty-seven of the questions were considered to be specific to Hale Library. For example,

- Can I renew a book loan by phone or Internet?
- Does the library have back issues of Rolling Stone magazine available for checkout?
- What floor are the copy machines on?

Overall, most questions seem to be comparable to many general questions that are asked at the reference desk. Most responses were made using online resources or referrals. For more complex or lengthy questions, or questions involving instruction in using library resources, chat reference was not as efficient and librarians generally referred users to subject specialists or other sources for more detailed assistance.

At the login page, patrons were asked to select their affiliation from a pull-down menu. From the transcripts, it was determined that undergraduates comprised the majority of users (Table 2).

Table 2
Number of Questions by User Classification

Undergraduate	Graduate	Faculty/Staff	Other	Alumni
76	5	10	10	1

The day of the week that the service was most often utilized was Tuesday (38 chats), followed closely by Monday (36 chats). The most chats (37) were recorded between the hours of 3:00 and 4:00 p.m. The next busiest time was 4:00 to 5:00 p.m. with 18 chats.

From library statistics, it was determined that the "Ask a Librarian" Web page was "hit" a total of 2,020 times during the four months of the pilot project. Since the page included information about phone reference, e-mail reference, and chat reference, it is difficult to tell how many of these "hits" were users looking for information on chat reference. Statistics for e-mail reference show a dramatic increase in use since the link was included on the "Ask a Librarian" page in February 2002. There were fourteen questions from October 2001 to January 2002 versus 110 questions from February to June 2002. Reports from the literature have also indicated a similar increase. (Helman 87)

Exit surveys were overwhelmingly positive. Most respondents indicated that they received the information they needed and that they would use the service again. Since the surveys were optional, not all users submitted one (the total number of responses was 27) and those who tried to use the service outside of hours did not have an opportunity to submit a response. Some of the comments follow:

- This was really helpful and easy to use. We should have this permanently!!
- The librarian was very helpful.
- A wonderful service to have.
- It would be nice if this was available in the evenings.
- I think this is great, I wish that it was available for more hours though!
- A lot of people I know are busy between 2 and 4. Just something to think about.

Staff satisfaction with the pilot project was also positive. All five librarians would consider being part of another virtual reference project. They liked trying and learning something new, and felt fairly comfortable with chat technology by the end of the project, but would have liked more traffic and opportunities to improve their skills. All felt that training had been adequate. They would recommend virtual reference as another tool for serving patrons, but not necessarily as a priority. The least-liked aspects of the project were lag-time with the software (waiting for responses), patron's occasional lack of computer skills, feeling pressured to "hurry" because the patron was waiting for an "instant" response, and not enough actual calls when on duty. For the most part, the librarians felt that they provided adequate answers, although they believed some questions could have been better handled in person. The consensus of the group was that the service needed to be offered for more hours and publicized better.

Skills viewed as important for a virtual reference librarian include: ability to type well and to "type as you think"; ability to communicate clearly and concisely; ability to conduct an online reference interview without the advantage of seeing the patron (Is he still confused? Are you getting through to her? Is he paying attention?); ability to multitask and stay calm, good Internet searching skills, knowing when to make appropriate referrals, and having a broad knowledge of the library and university resources.

Conclusions and Recommendations

The goals and objectives defined at the beginning of the project were achieved. While the chairs of this project envisioned the service as a real help to distance learners, many of the chat sessions were with on-campus users, and in some cases from persons in the library building. Although the total number of calls was disappointing, the low number was not inconsistent with other reports in the literature (Sears). As with any new business or service it takes time, perseverance, and quality performance to build a user base. The volume of transactions might be significantly increased with more aggressive marketing and more hours of service. It is important to remember that a virtual reference service does not need to replace traditional reference, but rather should be used as another tool for the reference librarian. The informality of chat reference may actually afford the opportunity for those patrons hesitant to ask for help through traditional channels to get the assistance they need.

The co-chairs found that administering this project took much more time than anticipated. Because the project was outlined using the project management methodology (PMM) and the co-chairs were held accountable to follow the plan, many hours were spent on research, planning, and assessment of the project. The most difficult aspect of the project was scheduling to maintain adequate staffing.

From the data collected, it is clear that patrons are interested in using a virtual reference chat service. The fact that more calls came in during the hours when no operators were on duty indicates that the service should be offered for more than two hours a day. With current budget restrictions and a hiring freeze at KSU Libraries, it is not feasible to expect current staff to provide the extra hours needed to staff a virtual reference service. However, the information and experience gained from the pilot project would be a valuable asset in collaborating on a larger project.

Fortunately, there is interest across the state of Kansas in collaborating to provide this type of reference service. The co-chairs served on a statewide task force to develop a one-year pilot project to be funded by the Kansas Library Network Board. The Board has recently agreed to fund the project that will be comprised of staff from multi-type libraries throughout the state. The project is scheduled to begin as a public service in January 2003.

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Designing & Developing Interactive Instructional Concepts

Darla Runyon and Dr. Roger Von Holzen

Dr. Roger Von Holzen is the director of the Center for Information Technology in Education at Northwest Missouri State University. Since completing his doctorate in instructional technology from Texas Tech University in 1993, Roger has been extensively involved in the various technology initiatives undertaken by the university, leading to his appointment as the director of the campus' faculty technology center in the spring of 1999.

Darla Runyon is the Assistant Director and Curriculum Design Specialist for the Center for Information Technology in Education at Northwest Missouri State University. Darla has taught seven years in secondary education, two years at the community college level and three years at the university level. Currently, Darla works in the CITE office at Northwest and assists faculty in the design, development, and delivery of instructional technology.

Abstract

Online teaching has sparked new teaching strategies for faculty to incorporate whether in campus-based courses, Web-augmented course sites or in an online delivery mode. One of the most effective and significant of these techniques is the integration of interactive, instructional concepts. This technique provides a way to engage online students in the learning process.

When preparing to teach online, many instructors look at the campus-based model and try to design their online course based on this model. In order for online delivery to be a successful learning medium for the student, though, a major redesign must take place. The redesign process fosters the emergence of a teaching strategy, which facilitates students engaging themselves in their individual learning cycle. This strategy is the integration of instructional concepts into the learning cycle for a particular module of content.

Instructional concepts are the application components of the critical content of a course or module. These instructional concepts may be: 1) concepts that have been historically difficult for students and/or 2) critical course concepts, which students must know to function in real-world situations.

Once developed, these instructional concepts can become a part of an integrated learning experience where critical content is first presented to the student followed by the presentation of the instructional concept. Students are given the opportunity to work with the concept as many times as needed before completing a performance assessment, which may lead the student back into the learning cycle for supplemental relearning and reassessment. These instructional concepts can be incorporated in campus-based, a Web-augmented or online course sites.

This presentation will provide a detailed discussion of the process, tools and techniques used to design and develop an instructional concept. Examples of instructional concepts and how they are integrated into a course will be shown as well.

Providing Electronic Document Delivery Services: Juggling User Needs, Delivery Options, and Quality Service

Cherié L. Weible

Cherié L. Weible is the Assistant Librarian for the Information Resource Retrieval Center at the University of Illinois at Urbana-Champaign Library (UIUC). She has been with the department since 1998. Professor Weible's publications and research are in the areas of electronic information supply and best ILL practices. She holds a M.S. in LIS from UIUC and a M.A. in history from Pittsburg State University at Pittsburg, Kansas.

Abstract

How do you choose the best options for providing quality electronic document delivery (EDD) services in an environment where volume is rising and efficiency is expected? Library users are accustomed to the 24/7 access to material created by the electronic world. Interlibrary loan, document delivery, and access service departments are also making the transition to providing 24/7 access by supplying non-returnable materials in electronic formats.

Software like Ariel, Prospero, and Adobe Acrobat are well known and widely used to reach the goal of increasing turnaround time by using full text desktop delivery to fill user requests. Desktop delivery is provided primarily through e-mail and HTML or a combination of the two technologies. While a library may implement one method of delivery, additional methods are often employed for special cases.

When juggling user needs and expectations, electronic delivery options, and quality interlibrary loan services, it can be difficult to find one solution to address every scenario. The changing environment of academic libraries challenges the library units providing desktop delivery to employ creative methods to implement a successful service.

This paper discusses electronic desktop delivery options available to academic libraries and addresses ways to provide for user needs and keep quality service in departments providing EDD to users.

Introduction

Interlibrary loan departments (ILL) are incorporating the electronic delivery of documents into their operations to increase the level of service to their users who benefit from quicker turnaround time. The decision of an ILL department to provide electronic document delivery (EDD) can create additional facets to the workflow as user needs, delivery options, and the quality of service must all be met for a successful implementation. Using a variety of technologies increases the efficiency of the ILL department (Simpson 46). This increase in efficiency helps the department deal with the increased volume due to the 24/7 world of access that researchers have available as a result of those same technologies.

Staff in ILL operations must discover how to identify and implement the use of new technology into their workflows in ways that benefit them and the ILL user. Staff members who are aware of how to take advantage of the numerous scanning and delivery options available to them will be able to meet changing user needs while maintaining a quality service.

User Needs

What exactly does the ILL user need? Most users want quick, convenient, and seamless service provided to fill their photocopy requests. Electronic delivery shortens the turnaround time for articles because processing time is reduced for the Interlibrary borrowing staff (Weible and Robben 80). The reduction in turnaround time to provide materials allows the ILL department to meet user expectations for quick delivery to fill users' requests.

Researchers have quickly discovered how to use technology to their benefit. By 1997, it was commonplace for online searching and ordering of citations to take place from the convenience of the office or home at any time of day (Wang and Manino 80). As user expectations change with the creation of new technologies, so do their needs. Some libraries choose to conduct surveys to learn what their users need and expect from EDD services (Rodman 71). Surveys can help determine which services are being used and how successfully users adopt these services to receive their materials electronically. Libraries also make decisions about EDD services based on budgets, staffing, and experimentation (Sayed, Murray, and Wheeler 62, 67).

Choosing Delivery Options

There is a wide variety of software and hardware available to libraries for delivering materials electronically. Prospero is an open-source product developed and maintained by staff at the John A. Prior Health Sciences Library at Ohio State University (Schnell 98). The Prospero software works in conjunction with Ariel software to convert documents from TIFF images so that material can be electronically delivered in PDF format (Schnell 90). The electronic delivery can be in the form of an e-mail attachment or the material can be made available from the Web with e-mail notification to the user explaining where the material is available.

Several years after the creation of Prospero, another option became available to libraries. Research Libraries Group, Inc. (RLG) created a patron-delivery module and incorporated this feature into version 3.0 of their Ariel software. The University of Chicago has successfully implemented this option into their workflow. See the *Additional Resources* section of this paper for an online guide illustrating how their department configured the Ariel software to implement the patron-delivery module. Using this module allows the delivery of the document to take place all within the same software package and prevents the ILL staff from moving into different windows and using different software to complete the EDD to the user. Like Prospero, the delivery of material can take place as an e-mail attachment or it can be posted to the Web with e-mail notification to the user that the material is ready for use.

Additional software used in the EDD process is created by Adobe. The Adobe Acrobat Reader is popular because it is free software that allows .PDF (Portable Document Format) files to be read from the user's computer. Adobe Capture is a software package available for a fee that converts scanned images into .PDF. However there is no user notification set up within this software.

In addition to Prospero, the Ariel patron-delivery module, and the Adobe products, ILL management systems like ILLiad, Clio, RLG's ILL Manager, and VDX integrate similar functions into the workflow of the management system. Each of these products works with incoming Ariel documents in different ways to transfer the material to the more useable .PDF, notify the user the material is available, and update ILL records of the status of the request.

E-mail is one way to use technology to meet user needs. However, e-mail attachments can be extremely large files that fill user's e-mail accounts quickly and result in failed delivery of the message and its attachment. Users often request multiple documents when researching a topic, which can result in multiple attachments being delivered to the e-mail account at the same time (Sayed, Murray, and Wheeler 59). In this case, an argument can be made for posting all material to the Web where user's can access their filled requests using a Web browser. E-mail remains a viable second choice for users who have difficulty accessing materials through the World Wide Web.

Using the e-mail attachment method of delivery can create problems in retrieving materials that are lost in transit unless a copy of the file is temporarily saved until confirmation of a successful transmission of the material has taken place. Ariel and Prospero software can both be configured to remove files that have either expired or been deleted by users. This purging activity has two advantages: the space on the server is kept clean of older documents that are no longer being used and the library is able to comply with the copyright guidelines for making the material available to the user.

User needs change according to the scenario and the various technologies being used by the library and the user. An example of the various technologies used is optical character recognition (OCR). Researchers who are visually challenged may need documents manipulated using OCR to convert images to text. Special software is used to accomplish this change in the document to enable the visually challenged researcher to access the material.

In this electronic age, more publishers are accepting electronic submissions of manuscripts. Academic researchers are discovering ways to request publication-ready images for their manuscripts through ILL electronic delivery. The savvy ILL practitioner will discover the best way to deliver the request and will use technology to their advantage. Compressing the larger files for delivery as e-mail attachments will help ensure user satisfaction since the document is more likely to arrive intact and without crashing the user's e-mail. Methods of file compression for images include .gif, .jpg, and .png. Experimenting with file compression and delivering these files to your own e-mail allows the ILL practitioner to understand how these methods of delivery appear to the user.

Knowing the purpose of the requested material is important when scanning and when selecting the compression method to be used since image quality will vary with each method. For example, if the user's purpose is to use the material as a publication-ready image within an article, factors to consider are resolution, file format, compression type, and color depth. It is always wise to send the material to yourself first to check for errors or problems with the chosen method for delivery to prevent providing the material multiple times before the user is satisfied.

Maintaining Quality Service

The volume of requests in ILL departments continues to increase as the demand for research materials continues in the 24/7 environment. Choosing one method for EDD service may satisfy the bulk of requests, but there are always exceptions to the rule. Users have varying abilities to use new technologies that come with new services. The implementation of an EDD service can mean additional interaction with the ILL user to help with the retrieval of documents delivered in this manner.

The creation of an online troubleshooting guide can reduce the number of users needing one-on-one help from the ILL staff. A Web site that offers answers to questions and solutions to common problems can affect users' perceptions in a positive way if technical difficulties are encountered during the retrieval of the document. An effective troubleshooting guide should answer questions regarding the access, receiving, and printing of electronically delivered materials. Contact information for the ILL department should also be prominently displayed as well as a link to the login page for items posted to the Web. Supplying the contact information in a visible manner is essential in customer satisfaction when documents arrive incomplete or the user experiences difficulty in accessing the material. A list of URLs for a variety of online troubleshooting guides is available in the "Additional Resources" section at the end of this paper.

Choosing to implement an EDD service offers additional advantages for the library. Funds used to purchase reams of paper can be spent elsewhere in the department. During one fiscal year a department saved $830 and reduced paper use in the office by 288 reams (Weible and Robben 82). This figure translates to 144,000 sheets of paper that did not have to be collated, counted, stapled, and mailed to users. The time saved in eliminating this operation from the workflow allowed office staff to focus on finding sources to fill more difficult citations submitted by users. In addition to saving paper and time, the department also saves on toner costs and the maintenance needed for the printer used to produce a paper copy of these articles.

ILL departments should invest in the training of their staff members in current Web and computer-based technologies. Many campuses offer training and short courses instructing staff in the use of various Adobe products, methods of file manipulation, and HTML. Completing these training courses boosts confidence and increases staff members' skills to successfully use a wide range of technology and software.

Conclusion

Successfully meeting the document delivery needs of today's users requires knowledge of the many delivery options available through various technologies. Maintaining a quality service while employing these various delivery methods is no easy task. Staff in ILL operations will discover and implement the options that best serve their users. In the future as more electronic delivery options are developed, it will remain important for staff to keep current with the developing technology through training and classes to continue offering the best service options.

As user needs vary and additional delivery options become available, it remains important for the ILL practitioner to read about options, experiment with solutions, and be ready to change as new technologies are developed.

In the past, successful resource sharing has depended on the knowledge and expertise of the staff working in the ILL department to select the quickest, easiest, and most seamless means of supplying the information to the user. This will be no different in the future as ILL departments continue to juggle user needs, delivery options, and quality service in an attempt to offer the best service possible. However, with the continual discussion of knowledge, ideas, and workflows across the resource-sharing environment, these goals can be successfully met through a combination of methods and technologies being implemented within the ILL department.

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Additional Resources

Prospero
Prospero home page: http://bones.med.ohio-state.edu/prospero/
Discussion group: http://auto.med.ohio-state.edu/mailman/listinfo/prospero

RLG's Ariel
Home page: http://www.rlg.org/ariel/
Discussion group: http://www.rlg.org/ariel/arie-l.html

Patron Delivery Using Ariel 3.01 by The University of Chicago
http://www.lib.uchicago.edu/e/using/ill/ariel_config.html

Adobe Acrobat Products
Home page: http://www.adobe.com/products/acrobat/readstep2.html

EBSCO's Relais Express
Home page: http://www.relais-intl.com/index.htm
A 30-day evaluation of the software is available.

NLM's DocView, DocMorph, and MyMorph
Home page: http://docmorph.nlm.nih.gov/docview/

ILL Management Software Incorporating the EDD Function:
Clio http://cliosoftware.com/
ILLiad http://www.oclc.org/illiad/
RLG's ILL Manager http://www.rlg.org/illman/index.html
Fretwell-Downing's VDX http://www.fdusa.com/products/vdx.html

Electronic Document Delivery Troubleshooting Guides:
University of Illinois at Urbana-Champaign http://gateway.library.uiuc.edu/irrc/eddhelp.htm
University of Michigan http://docdel.lib.umich.edu/ddTroubleShootingGuide.html
University of Arkansas http://dante.uark.edu/ill/prosperofaq.asp
Minitex http://www.minitex.umn.edu/docdel/medd/troubleshooting.asp
University of California at Santa Cruz
http://library.ucsc.edu/services/access/ill/documenthelp.html
University of Massachusetts at Boston http://www.lib.umb.edu/prospero/troubleshooting.html

"Engineering" Academic Library Services for Continuing Quality Improvement

Daryl C. Youngman

Daryl Youngman has served as Chair of Science Libraries at Kansas State University since 1995. Youngman's research interests include service assessment and the changing roles of academic librarians, and he conducts consulting activities related to library service quality. He is a member of the editorial board of Issues in Science and Technology Librarianship and a member of Sigma Xi, the scientific research society.

Abstract

Library services and patron expectations have been rapidly changing. Incremental improvements to services can easily fail to keep pace. Librarians can change their service perspective and utilize selected business and engineering management tools to develop markedly different service programs that meet current needs, accommodate rapid change and ensure that service quality is maintained.

Introduction

Academic librarians today find themselves in a time of substantial change. Library users have changed, the information tools available to them have changed and, perhaps most significantly, the way in which users interact with libraries has changed. Service programming at most academic libraries has been impacted by these changes.

Librarians have tried many approaches to solving this dilemma, but efforts to make incremental revisions and improvements to library services have met with limited success. A more comprehensive approach is needed.

To maintain effective service to modern library users, librarians must strongly challenge their current assumptions about patron needs, about service programming, and about the way they view the basic mission of the library. It is time for librarians to adopt a new view of the library service mission. Librarians can strive to meet current and emergent needs by developing a patron-centered, knowledge-based perspective on library service programming.

As librarians redefine their service mission, service quality management practices adapted from business and engineering can play an effective role in ensuring that programming remains relevant in the face of rapid change and that service quality continues at the desired level.

Changing the Service Focus

Academic librarians today find themselves in a time of substantial change, facing a new generation of users with different and changing expectations of library service. Several indicators suggest that a disconnect is developing between libraries and their users. Users are seeking and finding alternate information resources. Remote and around-the-clock access to library services is increasingly the norm. Providing assistance to information seekers at the time of use and the point of need is increasingly challenging because the "point of need" is becoming ever more broadly defined (Grodzins-Lipow 50). Additionally, it is evident that users will continue to modify their information-seeking behaviors as new technologies evolve.

As a first step in effectively serving modern users, librarians must re-focus their view of library service programming and re-think their roles as information professionals. Traditional library practices alone may not be sufficient to meet the current challenge and to maintain the effectiveness into the future. Central to the development of an appropriate response to current circumstances is a change in perspective, a fundamental change in the way librarians view their role as participants in the educational and research process.

The traditional content, or object-centered, view of library service maintains that librarians are to acquire books and other information resources, and engage in a variety of activities designed to make them available to users. The measurement of success in this model is, essentially, how well content is acquired, managed and made available (Budd 258). This view is reflected in many traditional measures of libraries—number of journal subscriptions, number of volumes owned, and the gate count of patrons. Indicators such as these are viable measures of the library, but they often do not reflect a true measure of library service. In light of changes such as noted above, this traditional view of library service becomes increasingly difficult to support.

Many librarians will find that they must change their ideas about library service and become a more active participant in the educational and research process (Miller 25). A change in perspective from a content view (number of books, type of subject matter addressed) to a competency view (what students will be able to do having utilized library resources) will facilitate both changes in patron service and in how librarians see their individual roles (Smith 2).

In this context, library services can be more directly linked to the desired outcomes dictated by coursework and research projects. Librarians will move from their traditional roles and become active in course design. Specialized librarians can serve as viable members of research teams, beginning early in the proposal stage. As librarians adopt this approach to service, they will be in an excellent position to remain relevant in a changing information environment, but it will be necessary for them to assume a leadership role in making these changes successful on an ongoing basis.

Adapting Business and Engineering Techniques to Manage the Changes

When librarians begin to develop programming that is based on the principles described above, patrons will soon begin to notice the results. As librarians continue to redefine their service mission and explore new roles, such as those detailed by O'Leary , the change process must be monitored and managed (O'Leary 24). Managing change of this magnitude requires an integrated approach to planning, assessment and continuing improvement. Many of the traditional library planning practices will continue to be appropriate, but selected business and engineering-based service quality management practices can play an effective role in ensuring that desired service quality levels are maintained and that programming continues to remain relevant as conditions change (Andaleeb 158).

However, it should be realized that the concept of utilizing engineering solutions in academic libraries often does not sit well when initially presented and negative reactions are common. Even though a proposal of this nature may seem radical to some, librarians should grant this idea serious consideration. Can libraries really afford to overlook the potential benefits of applying appropriate business tools?

As Irene B. Hoadley notes:

> To say that a library is run like a business almost always carries a negative connotation in the academic world. This should not be the case because there are business principles that can benefit how libraries are run.... Better accounting and money management are benefits to libraries. Another is the accountability characteristic of business operations that requires self-examination to determine if what is being done is what really benefits the organization and those it serves. (Hoadley 269)

The National Association of College and University Business Officers (NACUBO), in a discussion of this issue, affirms: "Educators have much to learn from the business world" (Ruben and Fridrich 27).

An important first step in this process is to identify and adopt appropriate benchmarks for various parts of the service operation. Benchmarking, when implemented, establishes a threshold against which the results of future assessment efforts may be gauged. Thus, benchmarking, a practice used in a variety of engineering contexts, should be developed before embarking on an assessment program.

While quite new to many libraries, the concept of benchmarking library service has been around for some time (Prichard 493). Benchmarks can be identified in a variety of contexts. The Association of Research Libraries (ARL) measures can serve as benchmarks for library service, but libraries are encouraged to seek specific examples of individual benchmarks that are important to the local conditions.

When benchmarks are agreed upon, it is essential for an assessment plan to be developed. Ongoing (not simply snapshot) assessment can be used to ensure that changing patron service expectations are identified and met, organizational flexibility is retained, and that both fiscal and staff resources are effectively allocated.

One example upon which service assessment may be based is the LibQual+ instrument. This assessment protocol offers advantages of thorough analyses and the opportunity to compare specific service characteristics across several libraries. Other assessment protocols are available, and librarians should investigate to determine the one that is best for their library. Whatever the assessment instrument of choice is, two important principles should be respected: the assessment should be conducted on an ongoing basis and service improvements arising from the assessment should be communicated to the patrons on a regular basis.

Continuing the Improvement

When a new service perspective is embraced, and when benchmarks and assessment are in place, a system of maintaining the focus on service and providing for the continuous revision and improvement of service is necessary. A critical question that should be asked is "How do we ensure that our overall service results will continue to improve?" This is another area where engineered solutions are available.

Two techniques that may be considered are Baldrige (The Baldrige National Quality Program) and EHE (Excellence in Higher Education). While both address organizational effectiveness and service quality, there are differences.

The Baldrige schema originated as a protocol for the continuing improvement of overall business performance. Baldrige criteria, originally developed for use in manufacturing, have been adapted to education, and libraries are beginning to take an interest (ASHAR 49).

> **The Baldrige Criteria for Performance Excellence** provide a systems perspective for understanding performance management. They reflect validated, leading-edge management practices against which an organization can measure itself. With their acceptance nationally and internationally as the model for performance excellence, the Criteria represent a common language for communication among organizations for sharing best practices. The Criteria are also the basis for the Malcolm Baldrige National Quality Award process. (NIST)

EHE, developed by Brent Rubin at Rutgers, is designed to be easily adaptable to the mission of many different types of institutions. While EHE contains many similarities to Baldrige, the cyclical aspect of EHE is of note. The basic steps are self-assessment; prioritizing areas for improvement; defining projects; implementing projects; and reporting progress as projects are completed. This structure facilitates the objective of ongoing, continuous improvement (NACUBO 27).

Libraries considering these systems for adoption should study these and other systems and adopt the practice that best serves local conditions.

Conclusion

In the face of rising user expectations and seemingly endless, recurring change, academic librarians are facing circumstances that are not easily overcome using traditional, incremental methods of service improvement. By dramatically changing the way that they view the basic mission of the library, librarians can set the stage for developing pertinent service programming and ensuring that those programs remain germane, effective and efficient into the future.

The ongoing success of this new approach to service can be enhanced by the adoption of selected engineering and business practices. A regimen of benchmarking and ongoing assessment, in combination with a system of continuous quality improvement, will ensure that changing patron service expectations can be identified and met. "Engineered" solutions to patron service can significantly benefit both patrons and librarians.

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Launching Chat Reference Service at Central Missouri State University: A Missouri Experience

Fu Zhuo and John Small

Fu Zhuo is Assistant Professor of Library Services at The Kirkpatrick Library, Central Missouri State University. He earned his M.L.I.S from The University of Alberta, Canada in 1997 and worked at Brooklyn Public Library, New York City over four years. After he came to Central Missouri State University in 2001, he has been quite interested in providing library reference service, in particular, the virtual reference service.

John Small is Assistant Professor of Library Services and the Electronic Resources Librarian at The Kirkpatrick Library, CMSU. He has been active in technology issues in libraries since coming to CMSU in 1993. John has an MALIS and is ABD in Information Systems.

Abstract

Nowadays, most academic libraries offer some form of digital reference service through either e-mail or Web forms. However, a new form of digital reference called Instant Messaging has become more and more popular in many academic libraries. In January 2002, James C. Kirkpatrick (JCK) Library at Central Missouri State University (CMSU) decided to move in this direction and has added this new form of virtual "Chat reference service" into its library public services. After four months of preparation, the Chat reference service is in place. This article will provide an overview on the planning process, implementation, the software used, staffing issues, and publicity efforts. Other areas such as copyright, service guidelines, an FAQ page and evaluation are also covered. This article represents the present trend in terms of virtual reference and is an obvious example reflecting the changes and challenges in the field of academic libraries. It is intended for reference librarians or librarians at public service from all types of libraries and information centers.

Background

Only a few years ago, the term "digital reference" would have been a new thing. Today, digital reference is an indispensable component of electronic and networked services. Every day, librarians and library users depend heavily upon the Internet for answers to reference questions. Librarians and information professionals are in a golden age and have a great opportunity to provide quality remote reference service to their patrons and the general public. Digital reference forces us to question our long-held assumptions about the reference desk, the reference interview, and the role of the professional reference librarian.

Digital reference introduced e-mail reference first, and then evolved to a Web-based form question inquiry. Now, many academic libraries offer a new form of digital reference service called Instant Messaging Chat Reference Service. It has become more and more popular in many academic libraries. It has opened a new door for innovative service. What it is, how it operates, why it is important, and how we can improve it are questions we need to explore and address. Among the major concerns for librarians and information professionals when considering the implementation of Chat Reference Service are questions of what audience will be served, what technology will be used, what skills will have to be learned, and what policies must be written to support the new service.

In January 2002, the faculty at JCK Library at the CMSU decided to add this new form of virtual reference, "Chat reference service", to its library service. After four months of preparation, the Chat reference service is in place. In the following paragraphs, the planning process, the software selected, implementation, staffing issues and publicity efforts are discussed. It also covers other areas such as copyright, service guidelines, an FAQ page and evaluation. This article records the experience of launching Chat Reference Service at the JCK Library at CMSU. It represents the present trend in terms of virtual reference and reflects the current changes and challenges in the field of academic libraries.

Planning Process

The planning process involved three phases: preparation, implementation and promotion. During the preparation stage, the JCK library compared and selected feasible software for its Chat Reference Service. After the software was selected, training was conducted to train JCK Library reference staff in the new service. The major features of the software were introduced and the reference staff was urged to practice with the software and become familiar with it.

Another aspect of preparation was the job of setting up guidelines and an instrument of evaluation for this service. The guidelines determined the nature and scope of this service and how to handle related issues such as privacy, copyright, and technical support. Relevant workshops were given to the reference staff affected. Feedback was collected, examined and responded to. This process was essential to the success of Chat Reference Service, as JCK Library reference staff needed to understand how to provide such a new service in a professional and effective way before the service was actually launched and in place.

In the implementation stage, all library reference staff were required to sign up for training to use the designated software. This took up to two weeks. After signing up, the reference staff members were trained. Also during this stage, the coordinator of this project compiled the service guidelines, evaluation forms, etc., and put all of these on the JCK Library Web site. The reference staff were encouraged to play with this service and to pop up practical questions to each other every day to test various functions of the service. This process took four to six weeks. After this period, a start date in the summer of 2002 was chosen and announced.

It was decided that there should be a trial period in the summer to see if the Chat reference service ran smoothly. When everything was ready, JCK Library began to promote this service to the CMSU community. Emphasis was placed on obtaining coverage in campus publications such as the CMSU Muleskinner Newspaper, the CMSU GroupWise Network, and the CMSU News. In addition, the JCK library Web page formally introduced the service along with the hours of operation. When the new academic year began, this service was included in the JCK library bibliographic instruction to show all freshmen how to use it. There were plenty of new flyers at various locations in the JCK Library for anyone who was interested in using this service.

Software Selection

"Well begun, half done." One of the most important aspects of launching Chat reference service was to select software to facilitate the service. Presently there are many Chat software programs available. Some are: AOL Instant Messenger (AIM), Conference Room, eGain Interact, Human Click, IRC, LiveAssistant, LivePerson, MSN Netmeeting, NetAgent, OnDemand (Convey), QuestionPoint, 24/7 Reference, Virtual Reference Desk (LSSI), and Virtual Reference Librarian (Eres). Each software package has strong and weak points.

It was decided that the right software for JCK Library should meet the following criteria: It should be user-friendly, easy to handle, with strong technical support, and be cost effective. AIM seemed to meet all the requirements. It is free, easy to learn and use, and it has a strong technical support 24/7 all the year round. This software can also deliver audio and video files. Therefore, it was a choice that could help deliver various forms of media for the library.

In addition, the AIM software is loaded, by default, on all campus computers, including those located in the various campus computer labs and those in residence halls. This meant that we had a software choice that was already part of the campus standard, and could leverage that for our own purposes. There is also a section on the AOL Web site that lets a user choose a Web-based interface, for situations when downloading a client to a machine is not feasible or possible. The final criterion that helped make our determination was the fact that many of our librarians and staff were already users of AIM, and had been comfortable with the software and its abilities for some time. This comfort level led us to believe that instant messaging from the reference desk would be successful with this tool.

There is also a disadvantage in choosing AIM. It is difficult to identify who is chatting with the library reference desk. It could be someone who is not affiliated with CMSU although the JCK Library intends to serve its own students and faculty first. Therefore, the solution to this problem is to ask each chat user to present his or her university ID before the reference staff delivered an answer.

The other problem of AIM is that the "JCKLReference" buddy name only stays with one reference computer at a time. That means if the reference librarian is busy answering a face-to-face reference question, the Chat reference question could be ignored or delayed, thus losing the advantage of "instant and real time" function.

The other drawback for Chat reference service was the constant invasion of adult chats to the JCK library reference service. Thanks to the "Block" function of AIM, those unwanted visits were effectively stopped. If the sign-on name of the JCK Library reference desk "JCKLReference" were not publicly registered or displayed, this phenomenon could have been lessened or avoided to the greatest extend.

Implementation

The implementation stage started with the selection of the designated software, AIM. After the software was installed, staff training began. Workshops were given and all the reference staff involved were required to learn and practice this proposed service. At the same time, a series of workshops about setting up the guidelines (as in the FAQ page) and evaluation were conducted to gather various ideas on questions such as: "Who are we doing this for? What is our policy?, How are we going to staff this service?, Should we have a Q&A for the public?", and so on and so forth.

Due to the limitation of staffing and library hours, it was decided that the JCK Library would only provide this Chat Reference Service for CMSU community. In order to ensure and facilitate this goal, the reference staff would ask a prospective chatter to submit his or her CMSU e-mail address to be identified as a member of CMSU when requesting a document delivery. It was also decided that a CMSU ID number and another e-mail account would be acceptable identification, providing needed flexibility in the policy.

The Chat Reference Service is only part of the library's whole reference services and it was necessary to have a separate guideline to govern this service. Thus the JCK Library also decided to use the existing reference policy as a basis and the Chat service was incorporated with other digital services, such as e-mail service.

How to staff this service was a major concern of the reference staff. As no one knew how this service would be received, the JCK Library decided to staff two people for this service first. The library might need to add more people into this service if it were well received for a higher demand. Usually, these two reference staff members on the desk would answer the questions first. Of course, only one reference computer at a time had the service on. That sometimes put an extra burden on the reference staff when he or she was busy answering a face-to-face reference question. Therefore, the reference staff were advised to either sign off temporarily and let the other reference computer sign on immediately or simply put up an "away message" for a brief time. If Chat lost its "instant and real-time" advantage, it would not be preferred to e-mail service. Consequently, the reference staff were urged to pay constant attention to any new messages coming up when they were at the reference desk.

As the library might face the same and similar reference questions from time to time about how to get an off-campus access to the JCK Library's databases or a subject guide, it was suggested that there be a link to lead to the page that answers those obvious, common questions. This was based on the experience of e-mail and telephone questions in the past.

Acknowledging questions and signing answers was also discussed at the workshop. Whether or not the reference staff should sign the answer individually or as a group was up to the individual reference staff. Should the reference staff keep a record or transcript as to how people used this service? The answer was no. But for the purpose of training, statistics would be collected from the evaluation page, which reference staff could review for their future research to improve the service. Data collected could also be used for administrative purposes.

Service Guidelines and FAQ Page

Any service needs guidelines to set the goals and objectives. But was Chat considered a new type of reference service or was it only part of the reference service? After some discussion, the JCK Library concluded that Chat reference was a new form but still part of the existing digital reference service. In order to provide a quality service to library users, it was imperative that some sort of guidelines should be established so that the scope of this service was set and the relating issues were addressed. As the library already had a reference policy, it was decided to incorporate the Chat reference guidelines into its FAQ page.

The questions were asked to explain what the service was, who was this service for, the library's privacy policy, what kinds of questions the user might ask and not ask, and how to handle technical problems, etc. The key points of the FAQ page address the nature and scope of the Chat service. It also states the library's privacy policy that is very important to both the reference staff and the library user. It provided an opportunity to ensure the smooth function of the Chat service. As the policy states "When providing Chat service, the Library will only collect the minimum personally identifiable information necessary for providing effective services and resources to our users. Provision of an e-mail address is optional, but is necessary if you wish to receive an electronic document, or when a question can not be answered immediately" (James C. Kirkpatrick Library).

As in the area of what kinds of questions a chatter could or could not ask, the JCK Library preferred to receive factual questions due to the Chat reference characteristics but also welcomed interviews that would lead to a search strategy for the Chat service user. Sample questions were presented as examples to the prospective Chat service users. Those questions also included "What kinds of questions can I not ask using Chat? The answer defined "Abusive, obscene, threatening or harassing messages will not be tolerated. The library reserves the right to terminate the chat session if any of those questions occur" (James C. Kirkpatrick Library).

Copyright Concern

Librarians are the forerunners in implementing copyright laws. The ACRL Guidelines for Distance Education Learning Library Services" state that we should provide needed library services by using the "broadest application of fair use of copyrighted materials" (Guidelines for Distance Learning Library Services).

However, it is easier said than done. This is a rule that is always confusing and challenging to both librarians and their friends – library users. It is often not certain exactly what Fair Use actually permits. Therefore, we tend to take an attitude, which has been the custom of libraries nowadays, to provide links to the right source that a Chat user was asking. Was this still sufficient to meet the legal requirements? To play it safe, our Chat reference staff was recommended to point to how to access the library resources from off-campus and advise the user to retrieve their needed information themselves.

Service Evaluation

The main purpose of an evaluation of an electronic reference service is to assure that the goals and objectives of the service are being met and to ascertain that the service is working efficiently and effectively. The focus in electronic reference service is the quality of the response, user satisfaction with the response, and the question-answer process that has been established (Lankes and Kasowitz, page 180). Therefore, before JCK Library actually started Chat reference service, the issue of evaluation arose and a form of survey was created accordingly to monitor how well this service was going to be received.

For the purposes of this survey, Chat reference was defined as immediate, interactive reference service delivered via computer and real-time communication software such as chat-based instant messaging. This survey (see fig. 1) was designed to gather data and the intention was to both document the status of chat reference service and provide assistance to our reference staff members who are adjusting to this new service. At the time of this writing, the authors were in the initial stages of gathering data via the survey.

CENTRAL MISSOURI STATE UNIVERSITY
James C. Kirkpatrick Library

Chat Service Survey

1. How did you learn about this Chat service?
   - ○ Flyer
   - ○ Library instruction session
   - ○ Friend
   - ○ Library Website
   - ○ My instructor
   - ○ Other

2. Have you used the James C. Kirkpatrick Library reference Chat service before?
   - ○ Don't know
   - ○ Never
   - ○ Once before
   - ○ Five times
   - ○ More than five times

3. How are you affiliated with CMSU?
   - ○ Student
   - ○ Faculty
   - ○ Staff
   - ○ Alumni
   - ○ Other
   - ○ Not affiliated

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4. What kind of questions did you ask today through this Chat reference service?
    - Research (term papers, thesis, etc)
    - Facts (country name, place, figure, meaning of words, etc)
    - How to…
    - General information
    - Other

5. Were you satisfied with the service you received?
    - Yes
    - No
    - Somewhat
    - Not Applicable

6. Would you recommend this Chat service to others?
    - Yes
    - No
    - Maybe

7. Do you prefer this Chat reference service to in-person reference service?
    - Yes
    - No
    - Not Applicable

8. Do you prefer this Chat reference service to telephone reference service?
    - Yes
    - No
    - Not Applicable

9. Do you have any comments or suggestions?

Available online at: http://library.cmsu.edu/services/jump/survey.htm

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Fig. 1: Chat Service Survey

Summary

As in many other academic libraries that have already installed a Chat reference service, Chat reference is certainly a positive addition to JCK Library services. It reflects the current trend of today's technology being used in academic libraries. The name ***JCKLReference*** becomes a milestone in JCK Library's history, and with the mutual efforts of the reference staff and the library users, it will become more and more popular and widely used. This experience at the JCK Library can be used by other Missouri academic libraries when they are ready to launch this new service in the digital age.

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